

# FEDERAL BUREAU OF INVESTIGATION

Precedence: ROUTINE

Date: 07/26/2004.

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To: Counterterrorism

Attn: WMDOU [REDACTED]

Inspection

Attn: IIC [REDACTED]

Washington Field

Attn: Amerithrax ✓

Laboratory Division

Attn: CBSU, [REDACTED]

From: Washington Field

Amerithrax 2

Contact: [REDACTED]

Approved By: [REDACTED]

Drafted By: [REDACTED]

Case ID #: 279A-WF-222936-LAB (Pending) - 92/Charged out

222936-5C149-4

Title: AMERITHRAX;  
MAJOR CASE 184;  
OO:WFO

**Synopsis:** To request the Chemical-Biological Sciences Unit (CBSU), FBI Laboratory, Quantico, Virginia, investigate and develop a method for detecting the use of Renograffin/RenoCal/Hypaque for spore purification and phenol for spore storage and stabilization.

**Reference:** 279A-WF-222936-USAMRIID, Serial# 795, dated 05/15/2004, 279A-WF-222936-USAMRIID, Serial# 836, dated 04/13/2004, 279A-WF-222936-USAMRIID, Serial# 170, dated 05/16/2003, 279A-WF-222936-302, Serial# 3234, dated 02/20/2003, 279A-WF-222936-302, Serial# 3172, dated 02/19/2003, 279A-WF-222936-302, Serial# 2494, dated 06/12/2002, and 279A-WF-222936-302, Serial# 733, dated 03/20/2002.

**Details:** In a review of notebooks and interviews regarding production methods of *Bacillus anthracis* Ames spores from Bruce Ivins' research group in the Bacteriology Division at the United States Army Medical Research Institute of Infectious Disease (USAMRIID), Fort Detrick, Maryland, it was indicated that all

[REDACTED]

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HEREIN IS UNCLASSIFIED  
DATE 12-23-2008 BY uc baw 603224

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spore production batches incorporated into Reference Materials 1029 and 1030 were purified using Renografin/RenoCal gradients.

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The protocol for purification as detailed in 279A-WF-222936-USAMRIID, Serial# 795, dated 05/15/2004, required a [REDACTED]

[REDACTED]

Use of a RenoCal-76 gradient for purification of spores by Bruce Ivins' research group entailed [REDACTED]

[REDACTED]

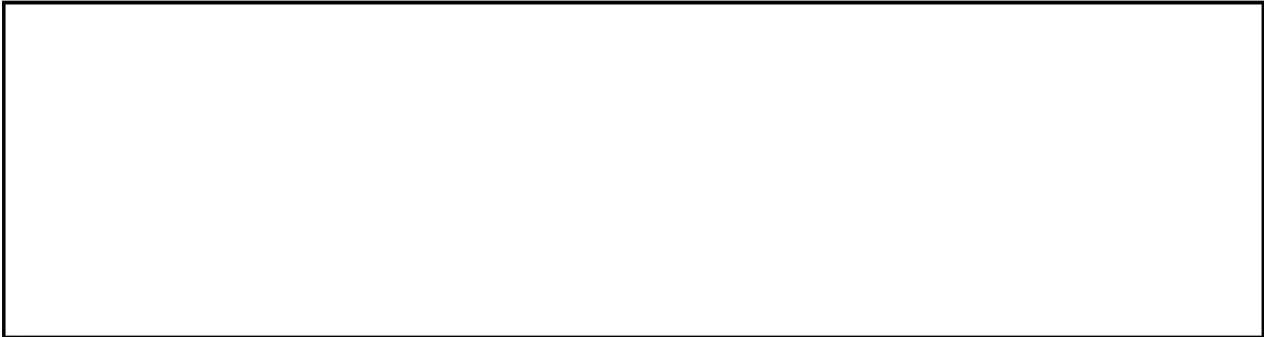
[REDACTED]

[REDACTED]

In 279A-WF-222936-USAMRIID, Serial# 795, dated 05/15/2004, 279A-WF-222936-USAMRIID, Serial# 836, dated 04/13/2004, 279A-WF-222936-302, Serial# 3234, dated 02/20/2003

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Gradient purified spores stored for use in aerosol challenges by Ivins' research group were stored in a 1% phenol solution. A 1% phenol solution keeps the live spores from growing/germinating thus maintaining or stabilizing the spores. Live spores can be stored in this manner for up to five years without much maintenance. Spores maintained in water, however, need to be re-washed and re-enumerated every two weeks as spores tend to grow when kept in water.

It may be possible to differentiate spores that were stored in phenol from those that were not by using gas chromatography. This technique may allow for identification of a gaseous or mobile phase by separating it from the solid or stationary phase. Spores stored in 1% phenol solution may carry an identifiable phenol signature even after additional wash steps.

#### Request

CBSU is requested to determine, develop, implement and validate a detection protocol for determination of the use of RenoCal/Hypaque as means of purification of *Bacillus anthracis* spores. In addition, CBSU is requested to determine whether spores stored in a phenol solution prior to wash/drying protocols carry a detectable phase related signature.

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Set Lead 1: (Action)

LABORATORY

AT CHEMICAL-BIOLOGICAL SCIENCES UNIT

CBSU to determine, develop, implement and validate a detection protocol for determination of the use of RenoCal/Hypaque as means of purification of *Bacillus anthracis* spores. In addition, CBSU to determine whether spores stored in a phenol solution prior to wash/drying protocols carry a detectable phase related signature.

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# FEDERAL BUREAU OF INVESTIGATION

Precedence: ROUTINE

Date: 09/11/2006

To: Washington Field  
Counterterrorism

Attn: AMERITHRAX-1  
Attn: WMDOU

From: Washington Field  
AMX-2 / NVRA  
Contact: SA [REDACTED]

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Approved By: [REDACTED]

Drafted By: [REDACTED]

Case ID #: 279A-WF-222936-SCI18 (Pending) - 3

Title: AMERITHRAX;  
MAJOR CASE 184

**Synopsis:** To summarize the association of ten *Bacillus anthracis* samples acquired during searches conducted at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) and Battelle with RMR-1029.

**Details:** Phenotypic Analysis of the *Bacillus anthracis* (Ba) spore powders used in the anthrax letters sent to Senators Daschle, Leahy, and the New York Post determined that multiple morphological variants were present. When grown on solid media, the phenotypes (i.e., appearances) of these variants differ from each other, and from the ancestral Ames strain; demonstrating differences in textures, colors, and growth patterns than colonies produced by the 1981 ancestral isolate of Ames. The five variants identified were designated as morphs A, B, C, D, and E.

Analysis of the deoxyribonucleic acid (DNA) sequences from isolates of the five morphological variants led to the discovery of 28 unique genetic mutations within these five classes of morphological variants. Characterization of the DNA sequences of three Morph A isolates from the Leahy, Post, and Daschle letters revealed that these three isolates each have a different mutation in the same region of their genomes. The Morph A mutations from the Leahy, Post, and Daschle letters were named A1, A2, and A3, respectively. Molecular assays with the ability to detect trace levels of the A1 and A3 mutations in a background of predominantly wild type Ba have been developed and validated [REDACTED]

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DATE 01-06-2009 BY 65179 dmh /baw

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Similarly, characterization of the Morph D isolate from the Leahy letter revealed the presence of a 258 base pair deletion, designated the "D Deletion." Molecular assays with the ability to detect trace levels of the D deletion in a background of predominantly wild type *Ba* have been developed and validated [REDACTED]

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Sixteen laboratories in the United States and laboratories in three foreign countries were determined to possess stocks of the Ames strain of *Ba* before the anthrax mailings. The FBI collected a total of 1,056 Ames isolates from these laboratories and stored them in an FBI *Bacillus anthracis* Repository (FBIR). All samples submitted to the FBIR have been analyzed for the presence of A1, A3, and D mutations using the above described assays. Only ten samples in the FBIR have all three mutations present and are listed below.

FBIR Number	Origin Laboratory	Location Acquired	Sample Identifier or Label
005-016	Battelle	[REDACTED]	0114-S
044-040	USAMRIID		[REDACTED]
049-004	USAMRIID		RMR-1029
049-006	USAMRIID		[REDACTED]
049-008	USAMRIID		[REDACTED]
049-016	USAMRIID		Ames Spores 2433 CDC7738
052-026	USAMRIID		Dugway Ames spores; Dugway on the cap
053-070	USAMRIID		Dugway Ames spores; 1x10 <sup>10</sup> /mL
054-076	USAMRIID		50mL tube of B. anthracis Ames; 3x10 <sup>10</sup> /mL
066-044	USAMRIID	February 2002 shipment from Ivins to [REDACTED] [REDACTED]	Ames strain RMR 1029 from Dugway 1997

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RMR-1029 was a large *Ba Ames* spore batch produced to conduct numerous anthrax aerosol challenges. Upon its assembly, the concentration of RMR-1029 was approximately  $3.6 \times 10^{10}$ /ml, consisting of one liter in total volume, split between two one liter flasks (0.5 liter each). In order to produce the quantity of spores necessary to make RMR-1029, Dugway Proving Ground was contracted to produce *Ba Ames* spores, which were combined with spores produced in-house by Bruce Ivins at USAMRIID. RMR-1029 consisted of a combination of 34 spore production dates, 22 production dates at USAMRIID and 12 production dates at Dugway, totaling approximately  $3.6 \times 10^{13}$  total spores, 85% of which were produced at Dugway. Due to the quantity of spores comprising RMR-1029 and the fact that this sample was one of the first to be identified as having all three morphs present, the AMERITHRAX Task Force set out to determine if, and how, the other triply positive samples were derived from, or otherwise related, to RMR-1029. The results of this investigation is described below.

FBIR Sample 005-016

On June 19, 2001, Battelle received 30 mL of *B. anthracis* Ames spores, with a Colony Forming Units per milliliter (CFU/ml) of  $3.9 \times 10^{10}$ /ml or  $1.17 \times 10^{12}$  total spores, from USAMRIID. A Battelle Material ID# of "0114-S" was assigned to the material. Slants of 0114-S submitted to the FBI Repository were generated on 4/01/2002 (Reference 279A-WF-222936-BATTELLE Serial 91). These slants were processed into the FBIR and were given FBIR sample number 005-016.

Bruce Ivins recalls sending a subsample of RMR-1029 to [redacted] at Battelle for aerosol challenges (Reference 279A-WF-222936-USAMRIID Serial 935). According to the RMR-1029 inventory log maintained for RMR-1029 Ivins disbursed 50 ml of spores on May 1, 2001 and 30 ml of spores on June 15, 2001 to [redacted] Battelle (Reference 279A-WF-222936 Serial 6263).

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FBIR Sample 044-040/049-006

This sample was identified by the FBI during the December 2003 consensual search of USAMRIID and was found in the box identified by Bruce Ivins as belonging to [redacted]. This sample entered into the FBIR on two separate occasions as FBIR numbers 044-040 (submitted to the repository by Bruce Ivins) and 049-006 (entered into the repository by NMRC after the sample was seized). [redacted] (Reference 279A-WF-222936-USAMRIID Serial 1004) identified the vial labeled "*Ames Spores*  $2.3 \times 10^{10}$ /ml" as

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belonging to [ ] based on the handwriting on the vial. [ ]  
did not recall the circumstances surrounding the vial.

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FBIR samples 044-040/049-006 is likely a sub-sample of RMR-1029 based on the fact that the concentration of the sample is the same as that determined for RMR-1029 on March 16, 1999. Given that [ ] doesn't remember the circumstances surrounding this sample, two possibilities as to the ownership of this sample arise. It is possible that this sample was used by [ ] in [ ] own research or the sample was prepared by [ ] and was provided to [ ] by [ ] or Ivins. If the latter is the case, this sample could be the original stock of Ames spores [ ] received from Ivins on March 24, 1999, (see discussion below of FBIR sample 049-008) which would be the most reasonable explanation for finding both samples (FBIR 049-006 and 049-008) in the box identified as belonging to [ ]. Additionally, both [ ] and [ ] worked for [ ] and after [ ] completed [ ] at USAMRIID [ ] showed [ ] where [ ] stored [ ] samples in case [ ] needed them for future experiments (Reference 279A-WF-222936-POI Serial 1437). [ ] consolidated [ ] samples into one box, wrote [ ] name on it and taped it shut. This box was moved into suite B4 after [ ] group moved there (Reference 279A-WF-222936-USAMRIID Serial 912).

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#### FBIR Sample 049-004

This sample was identified by the FBI during the December 2003 consensual search of USAMRIID. From a walk-in cold room (Room [ ] within containment suite B3, Ivins disclosed a one liter flask labeled 7737, RMR-1029 (Reference 279A-WF-222936-USAMRIID Serial 471). This is thought to be one of the two flasks in which RMR-1029 was stored. This sample was subsequently processed into the FBIR and given FBIR sample number 049-004. [Note: When RMR-1029 was submitted to the repository by Bruce Ivins it was negative for all three morphs. See discussion below for FBIR sample 066-044.]

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#### FBIR Sample 049-008

This sample was identified by the FBI during the December 2003 consensual search of USAMRIID (Reference 279A-WF-222936-USAMRIID Serial 471) and was found in a box, which was described as belonging to [ ] (Reference 279A-WF-222936-USAMRIID Serial 849), by Bruce Ivins. [ ] (Reference 279A-WF-222936-USAMRIID Serial 1489) identified the vial labeled "Ames Stock 2x10<sup>8</sup> No Phenol 15July99" as

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belonging to [ ] based on the handwriting on the vial. [ ] indicated that [ ] obtained [ ] spores from Bruce Ivins and provided a copy of a document dated March 24, 1999 showing that [ ] obtained "Ames spores - From Dr. Ivins, @  $2.3 \times 10^{10}$ /ml in 1% phenol. Stored @4°C." A copy of [ ] laboratory notebook dated July 15, 1999 revealed that [ ] made dilutions of an Ames spore stock with an initial concentration of  $2.3 \times 10^{10}$ /ml to a concentrations of  $2 \times 10^8$ /ml then washed the spores three times with water. [ ] indicated that [ ] typically washed and diluted the spores received from Ivins to remove the phenol to provide a working stock.

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On March 16, 1999, Bruce Ivins conducted an experiment to determine the CFU/ml of RMR-1029 as recorded on page 91 of his notebook (Reference Ivins' notebook number 4010). In this entry Ivins indicated that the CFU/ml originally determined for RMR-1029 was  $3.6 \times 10^{10}$  as determined on October 22, 1997. Ivins determined the CFU/ml of RMR-1029 on March 16, 1999 to be  $2.3 - 2.4 \times 10^{10}$ .

According to the inventory log maintained for RMR-1029 Ivins disbursed 1 ml of spores on March 23, 1999 [Note: the inventory does not indicate to whom the spores were given] (Reference 279A-WF-222936 Serial 6263).

FBIR Sample 049-016

On September 8, 2004 Bruce Ivins was shown a photograph of a *Bacillus anthracis* Ames spore sample in a 50ml conical tube labeled "Ames spores 2433 CDC 7738." Ivins indicated that this was a sample that he provided to [ ] and that it was either a subsample of RMR-1029, or material that [ ] or [ ] had made for [ ] (Reference 279A-WF-222936-USAMRIID Serial 935). A review of Ivins notebooks revealed that he had transferred subsamples of RMR-1029 to [ ] on six different occasions, the first documented transfer occurred on October 4, 2001 (Reference 279A-WF-222936-USAMRIID Serial 795). The October 4, 2001 date for the initial transfer of RMR-1029 to [ ] is in agreement with the inventory log maintained for RMR-1029 which indicates that 10ml of RMR-1029 was disbursed to [ ] on that date (Reference 279A-WF-222936 Serial 6263).

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FBIR Sample 052-026

FBIR Sample 052-026 was seized from USAMRIID Building 1425 containment suite B3 Room [ ] during a consent search of USAMRIID in July of 2004. [ ] was shown photographs of this

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sample with "Dugway Ames Spores" written on the cap of the tube and indicated that the sample and writing on the tube "could be [redacted] (Reference 279A-WF-222936-USAMRIID Serial 1461). [redacted] stated that [redacted] probably received the sample in the late 1990's and that [redacted] obtained [redacted] *Bacillus anthracis* Ames samples from Bruce Ivins or [redacted] could not recall why [redacted] received this sample and indicated that [redacted] did not typically share samples with other researchers.

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According to the inventory log maintained for RMR-1029 Ivins disbursed 1 ml of RMR-1029 to [redacted] on November 14, 2001 (Reference 279A-WF-222936-GJ Serial 1290). The phrase "Dugway Ames Spores" was commonly used by Ivins to describe RMR-1029.

FBIR Sample 053-070

[redacted] was shown two photos of FBIR Sample 053-070 seized from USAMRIID Building [redacted] room [redacted] by the FBI during a consent search of USAMRIID during July of 2004. These photos depict a 1.25 mL vial labeled "Dugway Ames Spores," and a 50 mL conical tube inside which the vial was found. [redacted] indicated that [redacted] received this sample sometime in 2003 or 2004 from Bruce Ivins. [redacted] believes that [redacted] requested the sample labeled "Dugway Ames Spores" from Ivins to see if these spores looked like the spores from the anthrax attack letters from the Fall of 2001 (Reference 279A-WF-222936-USAMRIID Serial 1418).

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FBIR Sample 054-076

FBIR Sample 054-076 was seized from USAMRIID Building [redacted] containment suite [redacted] Room [redacted] during a consent search of USAMRIID during July of 2004. [redacted]

[redacted] was shown a photo of sample 054-076. [redacted] indicated that [redacted] received this sample from Ivins and that until it was seized in 2004, this sample was considered [redacted] *Bacillus anthracis* sample (Reference 279A-WF-222936-USAMRIID Serial 1472). [redacted] provided agents with a copy of the "Receipt for Transfer of *B. anthracis* spores," for this sample. The "Receipt for Transfer of *B. anthracis* spores," indicates that 1ml of *B. anthracis* spores (Ames Strain) at a concentration of  $3 \times 10^{10}$ /ml was provided to [redacted] on April 22, 2002 (Reference 279A-WF-222936-USAMRIID Serial 1472). The concentration of  $3 \times 10^{10}$ /ml is identical to the concentration of RMR-1029 as it was originally determined and described on the RMR-1029 inventory (Reference 279A-WF-222936-GJ Serial 1290 and Ivins' notebook number 4010 page 68).

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FBIR Sample 066-044

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In February of 2002 (prior to the establishment of the FBIR), Bruce Ivins submitted four Tryptic Soy Agar (TSA) slants of his *Bacillus anthracis* directly to [redacted] of the [redacted] for genetic typing. All of Ivins' samples were analyzed using [redacted] Multiple-Locus Variable Number Tandem Repeat Analysis (MLVA) and determined to be the Ames strain of *Bacillus anthracis*. Since [redacted] requires only a minimal amount of sample for testing, [redacted] retains the majority of each sample following analysis. One of the samples Ivins submitted to [redacted] was labeled, "Ames strain RMR 1029 from Dugway (1997)."

Two months later, in April of 2002, Ivins submitted four samples of *Bacillus anthracis* to the FBIR. Of particular interest, FBIR sample FBIR006-002, labeled, "Dugway Ames spores - 1997" is believed to be RMR-1029, although its label is somewhat ambiguous. Genetic testing of FBIR006-002 generated **negative** results for the A1, A3, and D mutations, further bolstering the ambiguity of this sample.

As explained above, RMR-1029 was seized by the FBI in April of 2004 and transported to NMRC. In June of 2004, NMRC submitted RMR-1029 to the FBIR, which was accessioned as FBIR049-004. The genetic testing for sample FBIR049-004 resulted in **positive** results for the A1, A3, and D mutations.

In February of 2006, the AMERITHRAX Task Force requested [redacted] submit to the FBIR, the samples that Ivins had sent to [redacted] in February of 2002. The samples were processed into the repository under FBIR accession number FBIR066-044. More than four years after Ivins submitted the sample to [redacted] genetic testing of FBIR066-044 (labeled "Ames strain RMR 1029 from Dugway (1997)") generated **positive** results for the A1, A3, and D mutations.

#### Summary

RMR-1029 was submitted to the repository as FBIR samples 049-004 and 066-044 as described above. Based on the information provided above, it was determined that samples 005-016, 049-008, 049-016, and 052-026 are subsamples of RMR-1029. FBIR samples 044-040/049-006 and 054-076 are very likely subsamples of RMR-1029 based on the fact that the concentrations of these samples are identical to that described for RMR-1029. FBIR sample 053-070 is likely a subsample of RMR-1029 based on the labeling on

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the vial; additionally, this sample was received by it's  
custodian from Bruce Ivins **after** the anthrax mailings in 2001.

Set Lead 1: (Info)

COUNTERTERRORISM

AT WMDOU

Review the provided information.

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## FEDERAL BUREAU OF INVESTIGATION

ALL INFORMATION CONTAINED

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DATE 01-06-2009 BY 65179 dmh /baw

Date of transcription 11/24/2006

[redacted] date of birth [redacted] social security  
[redacted] account number [redacted] cellular telephone [redacted] was  
interviewed at [redacted]

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[redacted] After being advised of  
the identity of the interviewing agents and the purpose of the  
interview, [redacted] provided the following information:

[redacted] indicated that [redacted] arranged with  
BRUCE IVINS to provide [redacted] a sample of *Bacillus anthracis*  
(Ba) Ames strain spores for use in [redacted] research [redacted] could not  
recall when [redacted] received this sample. [redacted] did not physically  
receive this sample from IVINS but was informed by [redacted]  
that the sample was in a refrigerator located in the laboratory  
in which [redacted] worked. [redacted] worked for [redacted]

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[redacted] and conducted [redacted]  
research in the Toxinology and Aerobiology laboratories of U.S.  
Army Medical Research Institute of Infectious Diseases'  
(USAMRIID) building [redacted] No paperwork documenting the receipt  
of the sample was provided to [redacted] indicated that [redacted]  
best estimate on the quantity of the sample received was  
approximately 35-40 milliliters. The spore sample was contained  
in a 50ml Falcon Tube, on which *Bacillus anthracis* Ames and  
concentration was written. The sample was provided to [redacted] in a  
plastic safety-pack container which was white with an orange top  
and the word Ames written on the top to identify the agent  
inside. The sample was stored in this safety-pack container  
until [redacted] relinquished the sample to [redacted] when [redacted] stopped  
working at USAMRIID. The sample was stored in one of two  
places: in the refrigerator in room [redacted] building [redacted] or the  
walk-in refrigerator located on the [redacted] floor across from the  
break-room. On one occasion after a few months of not working  
at USAMRIID [redacted] was looking for this sample of Ames spores  
and could not find them where [redacted] believed [redacted] left them, the  
refrigerator in laboratory [redacted] building [redacted] found the  
sample in the [redacted] walk-in refrigerator and was informed  
that the sample was moved due to repair work being done on the  
refrigerator in the laboratory.

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When [redacted] first began to use Ba in [redacted] experiments [redacted]  
received a small batch of Ames spores from [redacted]  
[redacted] asked either [redacted] or [redacted] if anything special had

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Investigation on 11/22/2006 at [redacted]

File # 279A-WF-222936-SCI18 - (6)

Date dictated 11/24/2006

by SA [redacted]  
SA [redacted]

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Continuation of FD-302 of [REDACTED], On 11/22/2006, Page 2

been done to the spores that [REDACTED] received from IVINS and was told that they were purified using Renograffin. [REDACTED] would not have noticed if someone took a small volume of this spore sample, especially if what may have been removed was replaced with water. [REDACTED] estimated that [REDACTED] used 5 - 10 ml of the sample [REDACTED] received from IVINS. [REDACTED] recorded [REDACTED] experiments in notebooks [REDACTED] brought from [REDACTED] and not notebooks obtained from the USAMRIID library.

[REDACTED] shared a laboratory with [REDACTED] IVINS and members of IVINS's group. [REDACTED] other researchers of [REDACTED] also had access to this laboratory. [REDACTED] thought one [REDACTED] with potential access was unusual and peculiar because [REDACTED] [REDACTED] could not recall the name of this [REDACTED]. When asked about individuals with the expertise to perpetrate the mailings [REDACTED] indicated that IVINS was strange but "normal strange" and was always helpful of [REDACTED] in [REDACTED] research. [REDACTED] indicated that the labs at USAMRIID were usually empty after 5:00 p.m.

[REDACTED] indicated that the FBI should talk to [REDACTED] about any research with dry or powdered agents being conducted at USAMRIID because [REDACTED] knew [REDACTED] had purchased or talked of purchasing [REDACTED]

[REDACTED] had not heard of talk regarding the use of dry *Ba* and didn't think that it would be done due to the risk of exposure with a dry agent. [REDACTED] didn't recall any lyophilizers in the laboratory.

[REDACTED] did not know of anyone doing fermentation of any agents at USAMRIID. [REDACTED] did not know [REDACTED] maintains intermittent contact with [REDACTED] and [REDACTED]

[REDACTED] research encompassed the use of [REDACTED]  
[REDACTED]

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b7CContinuation of FD-302 of [REDACTED], On 11/22/2006, Page 3

biological agents in the environment. Live biological agents were used because the Department of Defense believed they needed to demonstrate the effectiveness of the developed techniques on the actual live organism being analyzed. Working in a biological safety cabinet, [REDACTED]

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[REDACTED] was not aware that [REDACTED] should have been provided to the Federal Bureau of Investigation (FBI) in response to the subpoena served on USAMRIID requesting [REDACTED] be submitted to the FBI Ames strain Repository. [REDACTED] recalled researcher [REDACTED] who worked on a different aspect of [REDACTED] [REDACTED] in response to this subpoena; however, no one indicated to [REDACTED] that [REDACTED] should also be provided in response to the subpoena.

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[REDACTED] was provided with a non-disclosure agreement which [REDACTED] read and signed in the presence of the interviewing agents. This non-disclosure agreement will be placed in the 1A envelope along with the notes from the interview.

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[REDACTED]

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On October 18, 2006, Special Agent [REDACTED]  
conducted the following investigation:

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In order to determine if the gradient purification method of purifying spore preparations was utilized at Battelle prior to the mailings of 2001, a search of the FBI [REDACTED] database was conducted.



Search terms of 'Hypaque' and 'Battelle' produced 31 results with the following positive result.

In July 2001, electronic mail communications between Bruce Ivins of USAMRIID and [REDACTED] of [REDACTED] indicated that [REDACTED] was learning to purify spores using the hypaque gradient purification method frequently used by Ivins. A copy of this e-mail is attached. (The file is identified by the unique MD5 hash [REDACTED])

Search terms of 'Renocal' and [REDACTED] produced 0 results.

Search terms of 'Renografin' and [REDACTED] produced 17 results with no positive results.

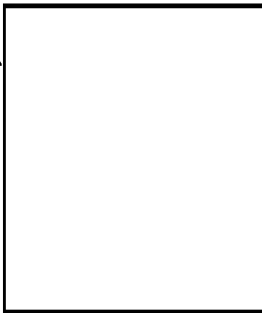
Search terms of 'spore purification' and [REDACTED] produced 12 results with no positive results.

[REDACTED]

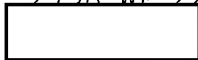
SSA

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On October 4, 2006, Special Agent [redacted] reviewed electronic mail communications provided to writer by SSA [redacted]. These e-mails were selected for review because they contained information regarding Hypaque purification of spores. The e-mails were retrieved from the computer of BRUCE IVINS.

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An e-mail thread dated June 4-5, 2001, between IVINS and [redacted] at BATTELLE discusses issues of spores foaming in the nebulizer when aerosolized. These spores were provided by IVINS and purified twice on Hypaque gradients.

An e-mail thread dated July 2001, between IVINS and [redacted] at [redacted] discusses issues [redacted] is having implementing the Hypaque gradient purification technique. A copy of this e-mail is attached and made part of this document.



An e-mail thread dated January 30, 2003, between IVINS and [redacted] at DUGWAY PROVING GROUND discusses the purity of spores that [redacted] is producing for IVINS.

An e-mail thread dated April 22-23, 2004, between IVINS and [redacted] at BATTELLE discusses trouble [redacted] is having implementing the Hypaque gradient purification technique. A copy of this e-mail is attached and made part of this document.

An e-mail thread dated May 14, 2004, between IVINS and [redacted] discusses electron microscopy performed at DUGWAY on Anthrax spores. IVINS indicates he gets his spores from DUGWAY and purifies them on a Hypaque gradient. [redacted] indicated [redacted] didn't know what a Hypaque gradient was.

An e-mail thread dated October 2004, between [redacted] and [redacted] [redacted] IVINS was carbon copied on the e-mails. This thread discusses the removal of Hypaque from spores, which is believed to be [redacted]

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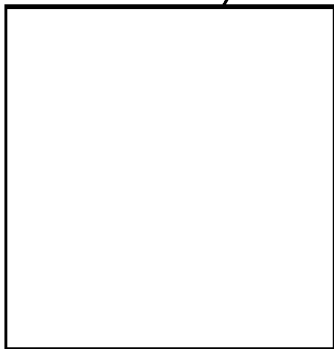




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279A-WF-222936-SCI49

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The e-mail thread further indicates that [REDACTED]

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[REDACTED]  
A copy of this e-mail is attached and made part of this document.



# FEDERAL BUREAU OF INVESTIGATION

Precedence: PRIORITY

Date: 12/01/2006

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To: Laboratory

Attn: A/UC [REDACTED]

Washington Field

Attn: IIC [REDACTED]

Counterterrorism

Attn: WMDOU, SSA [REDACTED]

From: Washington Field

Amerithrax-2

Contact: [REDACTED]

Approved By: [REDACTED]

Drafted By: [REDACTED]

Case ID #: 279A-WF-222936-SCI3 (Pending) -7

Title: AMERITHRAX;  
MAJOR CASE 184;  
OO:WF

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-06-2009 BY 65179 dmh/baw

Synopsis: Analyze FBI *Bacillus anthracis* Ames strain Repository (FBIR) samples submitted by Dr. Bruce Ivins. [REDACTED]

Details: In an attempt to determine if specific FBIR samples were submitted to the FBIR using the protocol provided to investigators by the FBI, FBIR samples, 006-002, 066-044 and 067-001 have been submitted to [REDACTED] U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), for in-depth analysis.

FBIR samples 006-002, 066-044 and 067-001 are all purported by Dr. Bruce Ivins to be samples of Reference Material Receipt (RMR)-1029. FBIR sample 067-001 is a duplicate slant to FBIR sample 006-002 as officially submitted to the FBIR by Ivins on 04/10/2002 and reacquired by the FBI from [REDACTED] in 2006.

RMR-1029 was a large *Bacillus anthracis* Ames strain spore batch produced to conduct numerous anthrax aerosol challenges. Upon its assembly in October 1997, the concentration of RMR-1029 was approximately  $3.6 \times 10^{10}$  colony forming units per milliliter, consisting of one liter in total volume. In order to produce the quantity of spores necessary to make RMR-1029, Dugway Proving Grounds was contracted to produce *Bacillus anthracis* Ames spores, which were combined with spores produced in-house by Ivins at USAMRIID. In-depth analysis of RMR-1029 has shown that

To: Laboratory From: Washington Field  
Re: 279A-WF-222936-SCI3, 12/01/2006

it is a heterogenous mixture of *Bacillus anthracis* Ames strain containing at least four (4) different classes of morphological variants (A, B, C/D, and E) and at least nineteen (19) different mutations.

Upon screening of samples 006-002, and 066-044 for the A1, A3, and D mutations, using molecular assays designed to detect each specific mutation, inconsistent results were obtained. See table below for comprehensive screening results of FBIR samples 006-002 and 066-044. The screening of FBIR samples for the A1 and A3 mutations was conducted by Commonwealth Biotechnologies, Inc. and the screening of FBIR samples for the D mutation was conducted independently at the Midwest Research Institute (MRI) and the Illinois Institute of Technology Research Institute (IITRI). FBIR sample 067-001 has not yet been screened for the A1, A3 and D mutations.

FBIR Number	A1 (CBI)	A3 (CBI)	D (MRI)	D (IITRI)
006-002	Negative	Negative	Negative	Negative
066-044	Positive	Positive	Positive	Positive

The Amerithrax investigation has requested [redacted] to analyze the aforementioned three (3) FBIR samples to determine if samples 006-002 or 067-001 contain any of the four (4) classes morphological variants previously identified and characterized by [redacted] FBIR sample 066-044 is also being provided to [redacted] and will function as a control sample. The identity of each of the samples is not known by [redacted]

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To: Laboratory From: .Washington Field  
Re: 279A-WF-222936-SCI3, 12/01/2006

LEAD(s) :

Set Lead 1: (Info)

LABORATORY

AT QUANTICO, VA

For information.

♦♦

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## FEDERAL BUREAU OF INVESTIGATION

Date of transcription 05/22/2007

On 05/21/2007 and 05/22/2007, SA [REDACTED]  
conducted a technical review of United States Army Research  
Institute of Infectious Diseases (USAMRIID) [REDACTED]

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[REDACTED] provided by [REDACTED] in response to  
Grand Jury Subpoena GJ 06-01 5429.

[REDACTED]

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[REDACTED]

[REDACTED]

b3

[REDACTED]

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ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED

DATE 01-06-2009 BY 65179 dmh/baw

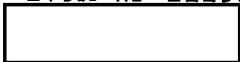
Investigation on 05/22/2007 at Falls Church, Virginia

File # 279A-WF-222936-SCI18 - 7 Date dictated 05/22/2007

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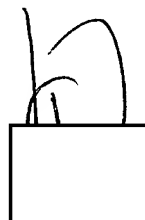
by

SA [REDACTED]  
[REDACTED]

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Phenotypic Analysis of the *Bacillus anthracis* (Ba) spore powders used in the anthrax letters sent to Senators Daschle, Leahy, and the New York Post determined that multiple morphological variants were present. Sixteen laboratories in the United States and laboratories in three foreign countries were determined to possess stocks of the Ames strain of Ba before the anthrax mailings. The FBI collected a total of 1,056 Ames isolates from these laboratories and stored them in an FBI Ba Repository (FBIR). All samples submitted to the FBIR have been analyzed for the presence of specific genetic mutations; the A1, A3, and D mutations. Of the 1,056 samples analyzed, only ten samples were identified as having all three mutations. Follow-up investigation suggests that these ten samples are all derived from a common source, the U.S. Army Research Institute of Infectious Diseases (USAMRIID) spore stock known as RMR-1029. RMR-1029 was a large Ba Ames spore batch produced to conduct numerous Ba aerosol challenges at USAMRIID.



An inventory sheet for RMR-1029 was maintained by its chief custodian, BRUCE IVINS, which indicated that on 03/07/2001, a small sample of RMR-1029 was sent to [redacted] at the University of New Mexico (UNM). However, this entry was added by IVINS to the RMR-1029 inventory log on 04/09/2004. This shipment was also identified on a USAMRIID shipment request form, form 11-R, which indicates that the request to ship virulent Ames Ba to UNM was authorized on 03/02/2001 and shipped on 03/07/2001. The 11R indicates that the sample will be shipped on wet ice and was "RMR-1029" at "approximately  $3 \times 10^9$  CFU/ml."

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Submissions to the FBIR by the University of New Mexico (FBIR accession numbers 013-002 and 013-004) were tested and the presence of the A1, A3, and D mutations were not detected. There are a number of explanations for this observation, including: 1) The sample provided to UNM was not actually RMR-1029; 2) There was sampling error at some point in the supply chain of this sample, in other words the sample size was sufficiently small such that the genetically different spores were not part of the sample; 3) All three assays resulted in false negatives.

The purpose of this communication is to report on the analysis of the keycard access records for IVINS and [redacted] on [redacted] and around the 03/07/2001 shipping date of this sample in an attempt to determine who may have prepared the sample.

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Keycard records for 03/07/2001 indicate that IVINS does not enter [redacted] at any time during the day, and that [redacted] and [redacted] enter [redacted] together at 7:36 am and exit together at 10:31

am. [ ] and [ ] only access the [ ] hot suite on this one occasion during the day. At 8:38 am IVINS accesses the South Dock, where packages are taken to be shipped. These data allow for two possibilities: 1) [ ] and [ ] prepare AND package the sample for shipment to UNM, or 2) [ ] and [ ] package a sample that was previously prepared for shipment to UNM. [ ] and [ ] then passed the package out of the hot suite to IVINS. The packaged sample was probably passed out of the hot suite via the passbox, because IVINS does not access the [ ] or [ ] airlock on this day.

IVINS accesses [ ] on: 03/06/2001 at 9:06 am and exits at 9:37 am; 03/05/2001 at 8:38 am and exits at 9:37 am; 03/04/2001 at 3:38 pm and exits at 4:20 pm; leaving the possibility that he prepared the sample for shipment to UNM on one of these days.

The Form 11R was completed and approved on 03/02/2001, five days before the sample was actually shipped. This allows for the possibility that IVINS initially planned on sending RMR-1029 to UNM, however, when it came time to prepare the sample for shipment a stock other than RMR-1029 was used and the change was never noted on the form 11R. Also if RMR-1029 was used it should have been recorded on the inventory log at the time the sample was removed from RMR-1029 and not three years later.

Attached to and made part of this communication are keycard access records for IVINS, [ ] and [ ] for the period from 03/01/2001 to 03/08/2001, [ ] airlock keycard rings for the same period, and a copy of the Form 11R pertaining to this shipment.

Date	Time	Access	Status	Location	Name
3/1/2001	6:56:07 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	6:56:22 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	6:57:20 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	7:01:48 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	7:02:21 AM	Access Granted	Normal		
3/1/2001	7:02:49 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	7:19:48 AM	Access Granted	Normal		
3/1/2001	7:51:10 AM	Access Granted	Normal		
3/1/2001	8:04:53 AM	Access Granted	Normal		
3/1/2001	8:36:46 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	8:41:37 AM	Access Granted	Normal		
3/1/2001	8:49:16 AM	Access Granted	Normal		
3/1/2001	8:59:45 AM	Access Granted	Normal		
3/1/2001	9:00:30 AM	Access Granted	Normal		
3/1/2001	9:01:02 AM	Access Granted	Normal		
3/1/2001	9:27:41 AM	Access Granted	Normal		
3/1/2001	9:35:49 AM	Access Granted	Normal		
3/1/2001	10:14:26 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	10:19:14 AM	Access Granted	Normal		
3/1/2001	10:19:58 AM	Access Granted	Normal		VINS, BRUCE E.
3/1/2001	11:22:31 AM	Access Granted	Normal		
3/1/2001	11:23:25 AM	Access Granted	Normal		
3/1/2001	11:35:25 AM	Access Granted	Normal		
3/1/2001	11:52:32 AM	Access Granted	Normal		
3/1/2001	11:54:59 AM	Access Granted	Normal		VINS, BRUCE E.

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Date	Time	Access	Status	Location	Name
3/1/2001	11:56:21 AM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	11:57:23 AM	Access Granted	Normal		
3/1/2001	12:37:37 PM	Access Granted	Normal		
3/1/2001	12:42:15 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	12:42:16 PM	Access Granted	Normal		
3/1/2001	12:42:21 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	12:42:17 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	1:06:42 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	1:25:58 PM	Access Granted	Normal		
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3/1/2001	1:43:11 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	1:46:07 PM	Access Granted	Normal		IVINS, BRUCE E.
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3/1/2001	1:56:19 PM	Access Granted	In		
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3/1/2001	1:59:28 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	2:01:27 PM	Access Granted	Normal		
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3/1/2001	2:02:55 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	2:05:48 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	2:18:06 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	2:28:12 PM	Access Granted	Normal		IVINS, BRUCE E.
3/1/2001	2:52:42 PM	Access Granted	Out		
3/1/2001	3:08:47 PM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/1/2001	3:15:53 PM	Access Granted	Normal		
3/1/2001	3:29:40 PM	Access Granted	Normal		
3/1/2001	4:02:08 PM	Access Granted	Normal		
3/1/2001	4:07:42 PM	Access Granted	Normal		
3/1/2001	4:26:50 PM	Access Granted	Normal		
3/1/2001	7:44:51 PM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	6:33:44 AM	Access Granted	Normal		IVINS, BRUCE E.
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3/2/2001	6:34:50 AM	Access Granted	Normal		IVINS, BRUCE E.
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3/2/2001	7:03:33 AM	Access Granted	Normal		
3/2/2001	7:04:18 AM	Access Granted	Normal		
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3/2/2001	7:17:38 AM	Access Granted	Normal		
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3/2/2001	7:54:12 AM	Access Granted	Normal		
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3/2/2001	7:57:24 AM	Access Granted	Normal		
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3/2/2001	8:21:08 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	8:22:08 AM	Access Granted	Normal		IVINS, BRUCE E.
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3/2/2001	8:28:09 AM	Access Granted	Normal		IVINS, BRUCE E.

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Date	Time	Access	Status	Location	Name
3/2/2001	8:29:32 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	8:30:50 AM	Access Granted	Normal		IVINS, BRUCE E.
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3/2/2001	9:43:34 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	9:46:15 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	9:46:20 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	9:47:14 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	10:38:10 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	10:58:46 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	11:07:21 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	11:11:58 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	11:21:23 AM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	11:25:40 AM	Access Granted	Normal		
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Date	Time	Access	Status	Location	Name
3/2/2001	12:16:41 PM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	12:19:40 PM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	12:42:09 PM	Access Granted	Normal		IVINS, BRUCE E.
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3/2/2001	12:49:20 PM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	1:02:22 PM	Access Granted	Normal		
3/2/2001	1:07:24 PM	Access Granted	Normal		IVINS, BRUCE E.
3/2/2001	1:17:26 PM	Access Granted	Out		
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3/4/2001	3:34:37 PM	Access Granted	In		IVINS, BRUCE E.
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3/4/2001	9:45:46 PM	Access Granted	Normal		IVINS, BRUCE E.
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3/5/2001	6:51:07 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	7:09:25 AM	Access Granted	Normal		
3/5/2001	7:26:00 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	7:27:43 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	7:42:08 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	7:43:34 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	7:46:52 AM	Access Granted	Normal		IVINS, BRUCE E.

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Date	Time	Access	Status	Location	Name
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3/5/2001	7:56:06 AM	Access Granted	Normal		
3/5/2001	7:56:34 AM	Access Granted	In		
3/5/2001	7:57:42 AM	Access Granted	Normal		VINS, BRUCE E.
3/5/2001	7:59:05 AM	Access Granted	Normal		
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3/5/2001	8:31:28 AM	Access Granted	Normal		
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3/5/2001	8:35:43 AM	Access Granted	Out		
3/5/2001	8:37:19 AM	Access Granted	Normal		
3/5/2001	8:38:09 AM	Access Granted	Normal		VINS, BRUCE E.
3/5/2001	8:38:47 AM	Access Granted	Normal		
3/5/2001	8:40:05 AM	Access Granted	Normal		
3/5/2001	8:54:39 AM	Access Granted	Normal		
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3/5/2001	9:21:21 AM	Access Granted	Normal		
3/5/2001	9:24:42 AM	Access Granted	Normal		
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3/5/2001	9:38:07 AM	Access Granted	Normal		VINS, BRUCE E.
3/5/2001	9:44:06 AM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
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3/5/2001	10:07:01 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	10:16:05 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	10:17:16 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	10:25:04 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	10:38:08 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	10:46:18 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:10:53 AM	Access Granted	Normal		
3/5/2001	11:16:37 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:22:07 AM	Access Granted	Normal		
3/5/2001	11:23:05 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:24:45 AM	Access Granted	Normal		
3/5/2001	11:26:13 AM	Access Granted	Normal		
3/5/2001	11:48:54 AM	Access Granted	Out		
3/5/2001	11:51:02 AM	Access Granted	Normal		
3/5/2001	11:51:23 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:52:58 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:55:11 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:59:13 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	12:05:15 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	12:06:32 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	12:11:22 PM	Access Granted	Normal		
3/5/2001	12:14:01 PM	Access Granted	Normal		
3/5/2001	12:14:26 PM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/5/2001	12:15:57 PM	Access Granted	Normal		
3/5/2001	12:18:39 PM	Access Granted	Normal		
3/5/2001	12:46:32 PM	Access Granted	Normal		
3/5/2001	12:47:39 PM	Access Granted	Normal		
3/5/2001	12:47:50 PM	Access Granted	Normal		
3/5/2001	12:48:28 PM	Access Granted	Normal		
3/5/2001	12:49:03 PM	Access Granted	Normal		
3/5/2001	1:27:18 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	1:28:36 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	1:39:34 PM	Access Granted	Normal		
3/5/2001	1:42:09 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	1:43:23 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	3:13:22 PM	Access Granted	Normal		
3/5/2001	3:23:58 PM	Access Granted	Normal		
3/5/2001	3:28:10 PM	Access Granted	Normal		
3/5/2001	3:56:50 PM	Access Granted	Normal		
3/5/2001	4:21:50 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	4:28:18 PM	Access Granted	Normal		
3/5/2001	9:06:30 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	9:07:08 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	9:08:04 PM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	9:59:35 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	6:37:29 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	6:58:53 AM	Access Granted	Normal		
3/6/2001	7:04:31 AM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/6/2001	7:06:46 AM	Access Granted	Normal		
3/6/2001	7:08:20 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	7:09:49 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	7:10:22 AM	Access Granted	In		IVINS, BRUCE E.
3/6/2001	7:10:15 AM	Access Granted	Out		IVINS, BRUCE E.
3/6/2001	7:11:08 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	7:31:52 AM	Access Granted	Normal		
3/6/2001	7:40:27 AM	Access Granted	Normal		
3/6/2001	7:42:54 AM	Access Granted	In		
3/6/2001	7:43:48 AM	Access Granted	Out		
3/6/2001	7:45:16 AM	Access Granted	Normal		
3/6/2001	8:05:57 AM	Access Granted	Normal		
3/6/2001	8:26:11 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	9:02:43 AM	Access Granted	In		IVINS, BRUCE E.
3/6/2001	9:06:05 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	9:32:43 AM	Access Granted	Normal		
3/6/2001	9:36:24 AM	Access Granted	Normal		
3/6/2001	9:36:50 AM	Access Granted	Normal		
3/6/2001	9:37:42 AM	Access Granted	Out		IVINS, BRUCE E.
3/6/2001	9:38:05 AM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	9:54:49 AM	Access Granted	Normal		
3/6/2001	9:57:44 AM	Access Granted	Normal		
3/6/2001	9:57:55 AM	Access Granted	Normal		
3/6/2001	9:59:34 AM	Access Granted	Normal		
3/6/2001	9:59:48 AM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/6/2001	10:08:18 AM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	10:15:30 AM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	10:20:13 AM	Access Granted	Normal		
3/6/2001	10:56:56 AM	Access Granted	Normal		
3/6/2001	10:57:33 AM	Access Granted	Normal		
3/6/2001	11:09:34 AM	Access Granted	Normal		
3/6/2001	11:09:38 AM	Access Granted	Normal		
3/6/2001	11:15:06 AM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	11:16:29 AM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	11:19:02 AM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	11:20:40 AM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	11:51:52 AM	Access Granted	Normal		
3/6/2001	11:54:19 AM	Access Granted	Normal		
3/6/2001	11:55:48 AM	Access Granted	Normal		
3/6/2001	11:56:18 AM	Access Granted	Normal		
3/6/2001	12:02:24 PM	Access Granted	Normal		
3/6/2001	12:03:16 PM	Access Granted	Normal		
3/6/2001	12:03:58 PM	Access Granted	Normal		
3/6/2001	12:32:58 PM	Access Granted	Normal		
3/6/2001	12:33:29 PM	Access Granted	In		
3/6/2001	12:36:52 PM	Access Granted	Out		
3/6/2001	12:37:22 PM	Access Granted	Normal		
3/6/2001	12:41:15 PM	Access Granted	Normal		
3/6/2001	12:41:58 PM	Access Granted	Normal		VINS, BRUCE E.
3/6/2001	12:42:49 PM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/6/2001	12:42:51 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	12:42:55 PM	Access Granted	Normal		
3/6/2001	12:45:21 PM	Access Granted	Normal		
3/6/2001	1:16:17 PM	Access Granted	Normal		
3/6/2001	1:24:06 PM	Access Granted	Normal		
3/6/2001	1:25:17 PM	Access Granted	Normal		
3/6/2001	1:25:57 PM	Access Granted	Normal		
3/6/2001	1:27:46 PM	Access Granted	In		
3/6/2001	1:30:55 PM	Access Granted	Normal		
3/6/2001	1:31:01 PM	Access Granted	Normal		
3/6/2001	1:31:49 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	1:49:38 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	1:50:31 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	2:41:41 PM	Access Granted	Out		
3/6/2001	2:41:50 PM	Access Granted	Out		
3/6/2001	2:42:21 PM	Access Granted	Normal		
3/6/2001	2:48:09 PM	Access Granted	Normal		
3/6/2001	2:55:09 PM	Access Granted	Normal		
3/6/2001	2:56:10 PM	Access Granted	Normal		
3/6/2001	3:16:04 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	3:20:16 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	3:20:51 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	3:21:56 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	3:25:29 PM	Access Granted	Normal		
3/6/2001	3:26:49 PM	Access Granted	Normal		IVINS, BRUCE E.

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Date	Time	Access	Status	Location	Name
3/6/2001	3:27:32 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	3:28:53 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	3:55:48 PM	Access Granted	Normal		
3/6/2001	4:06:22 PM	Access Granted	Normal		
3/6/2001	4:06:43 PM	Access Granted	In		
3/6/2001	4:07:38 PM	Access Granted	Out		
3/6/2001	4:08:00 PM	Access Granted	Normal		
3/6/2001	4:20:28 PM	Access Granted	Normal		
3/6/2001	4:20:30 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	4:35:39 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	10:09:04 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	10:11:49 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	10:13:02 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	11:07:47 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	11:12:20 PM	Access Granted	Normal		IVINS, BRUCE E.
3/6/2001	11:12:48 PM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	6:58:26 AM	Access Granted	Normal		
3/7/2001	7:05:27 AM	Access Granted	Normal		
3/7/2001	7:06:53 AM	Access Granted	Normal		
3/7/2001	7:12:41 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	7:15:25 AM	Access Granted	Normal		
3/7/2001	7:32:02 AM	Access Granted	Normal		
3/7/2001	7:32:39 AM	Access Granted	In		
3/7/2001	7:35:57 AM	Access Granted	Normal		
3/7/2001	7:36:13 AM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/7/2001	7:55:28 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	8:27:33 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	8:28:09 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	8:29:08 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	8:31:10 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	9:42:39 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:08:03 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:09:06 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:09:37 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:10:39 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:10:55 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:17:52 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:31:06 AM	Access Granted	Out		
3/7/2001	10:31:36 AM	Access Granted	Out		
3/7/2001	10:31:49 AM	Access Granted	Normal		
3/7/2001	10:33:09 AM	Access Granted	Normal		
3/7/2001	10:33:38 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:35:00 AM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	10:45:06 AM	Access Granted	Normal		
3/7/2001	11:11:17 AM	Access Granted	Normal		
3/7/2001	11:16:58 AM	Access Granted	Normal		
3/7/2001	11:33:32 AM	Access Granted	Normal		
3/7/2001	11:35:37 AM	Access Granted	Normal		
3/7/2001	11:36:57 AM	Access Granted	Normal		
3/7/2001	11:45:47 AM	Access Granted	Normal		IVINS, BRUCE E.

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Date	Time	Access	Status	Location	Name
3/7/2001	11:46:30 AM	Access Granted	Normal		VINS, BRUCE E.
3/7/2001	12:30:49 PM	Access Granted	Normal		
3/7/2001	12:34:21 PM	Access Granted	Normal		
3/7/2001	12:36:16 PM	Access Granted	Normal		
3/7/2001	12:36:11 PM	Access Granted	Normal		VINS, BRUCE E.
3/7/2001	1:08:03 PM	Access Granted	Normal		
3/7/2001	1:08:46 PM	Access Granted	Normal		
3/7/2001	1:18:12 PM	Access Granted	Normal		
3/7/2001	1:42:17 PM	Access Granted	Normal		
3/7/2001	3:28:21 PM	Access Granted	Normal		
3/7/2001	3:33:24 PM	Access Granted	Normal		
3/7/2001	3:36:34 PM	Access Granted	Normal		
3/7/2001	3:38:02 PM	Access Granted	Normal		VINS, BRUCE E.
3/7/2001	3:39:43 PM	Access Granted	Normal		VINS, BRUCE E.
3/7/2001	3:42:11 PM	Access Granted	Normal		VINS, BRUCE E.
3/7/2001	3:43:59 PM	Access Granted	Normal		VINS, BRUCE E.
3/7/2001	3:55:35 PM	Access Granted	Normal		
3/7/2001	3:59:59 PM	Access Granted	In		
3/7/2001	3:59:54 PM	Access Granted	Out		
3/7/2001	4:00:41 PM	Access Granted	Normal		
3/7/2001	4:01:04 PM	Access Granted	In		
3/7/2001	4:01:24 PM	Access Granted	Out		
3/7/2001	4:01:46 PM	Access Granted	Normal		
3/7/2001	4:01:59 PM	Access Granted	Normal		
3/7/2001	4:03:16 PM	Access Granted	Normal		

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Date	Time	Access	Status	Location	Name
3/7/2001	4:16:55 PM	Access Granted	Normal		
3/7/2001	8:13:37 PM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	9:18:24 PM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	9:21:34 PM	Access Granted	Normal		IVINS, BRUCE E.
3/7/2001	9:22:24 PM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	6:58:32 AM	Access Granted	Normal		
3/8/2001	6:59:32 AM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	7:00:13 AM	Access Granted	Normal		
3/8/2001	7:01:13 AM	Access Granted	Normal		
3/8/2001	8:06:16 AM	Access Granted	Normal		
3/8/2001	8:29:25 AM	Access Granted	Normal		
3/8/2001	8:46:10 AM	Access Granted	Normal		
3/8/2001	8:46:42 AM	Access Granted	Normal		
3/8/2001	8:46:45 AM	Access Granted	Normal		
3/8/2001	8:48:05 AM	Access Granted	Normal		
3/8/2001	8:50:32 AM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	8:55:45 AM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	8:55:52 AM	Access Granted	Normal		
3/8/2001	9:27:07 AM	Access Granted	Normal		
3/8/2001	9:40:55 AM	Access Granted	Normal		
3/8/2001	9:46:06 AM	Access Granted	Normal		
3/8/2001	10:06:56 AM	Access Granted	Normal		
3/8/2001	10:25:02 AM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	10:28:31 AM	Access Granted	Normal		
3/8/2001	10:30:04 AM	Access Granted	Normal		

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b7c

Date	Time	Access	Status	Location	Name
3/8/2001	11:36:39 AM	Access Granted	Normal		
3/8/2001	11:37:36 AM	Access Granted	Normal		
3/8/2001	11:39:50 AM	Access Granted	Normal		
3/8/2001	12:07:15 PM	Access Granted	Normal		VINS, BRUCE E.
3/8/2001	12:08:08 PM	Access Granted	Normal		VINS, BRUCE E.
3/8/2001	12:18:20 PM	Access Granted	In		
3/8/2001	12:21:13 PM	Access Granted	Out		
3/8/2001	12:23:21 PM	Access Granted	Normal		
3/8/2001	12:28:06 PM	Access Granted	Normal		
3/8/2001	12:28:48 PM	Access Granted	Normal		
3/8/2001	1:01:18 PM	Access Granted	Normal		
3/8/2001	1:01:23 PM	Access Granted	Normal		
3/8/2001	1:02:31 PM	Access Granted	Normal		
3/8/2001	1:11:01 PM	Access Granted	Normal		
3/8/2001	1:30:48 PM	Access Granted	Normal		
3/8/2001	1:36:30 PM	Access Granted	In		
3/8/2001	1:36:31 PM	Access Granted	In		
3/8/2001	1:39:18 PM	Access Granted	Normal		
3/8/2001	1:39:25 PM	Access Granted	Normal		
3/8/2001	1:54:20 PM	Access Granted	Normal		VINS, BRUCE E.
3/8/2001	1:56:19 PM	Access Granted	Normal		VINS, BRUCE E.
3/8/2001	2:01:33 PM	Access Granted	Out		
3/8/2001	2:02:00 PM	Access Granted	Normal		
3/8/2001	2:16:12 PM	Access Granted	Normal		
3/8/2001	2:28:11 PM	Access Granted	Normal		

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b7C

Date	Time	Access	Status	Location	Name
3/8/2001	2:43:35 PM	Access Granted	Normal		
3/8/2001	2:58:14 PM	Access Granted	Normal		
3/8/2001	2:58:43 PM	Access Granted	Normal		
3/8/2001	3:52:53 PM	Access Granted	Normal		
3/8/2001	4:01:09 PM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	4:30:34 PM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	7:10:06 PM	Access Granted	Normal		IVINS, BRUCE E.
3/8/2001	7:28:29 PM	Access Granted	Normal		IVINS, BRUCE E.

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b7C



Date	Time	Access	Status	Location	Name
3/1/2001	10:38:58 AM	Access Granted	Normal		
3/1/2001	12:41:01 PM	Access Granted	Normal		
3/1/2001	12:43:16 PM	Access Granted	Normal		
3/1/2001	1:20:03 PM	Access Granted	Normal		
3/1/2001	4:27:19 PM	Access Granted	Normal		
3/1/2001	4:28:22 PM	Access Granted	Normal		
3/2/2001	10:15:12 AM	Access Granted	Normal		
3/2/2001	11:06:08 AM	Access Granted	Normal		
3/2/2001	11:06:01 AM	Access Granted	Normal		
3/2/2001	11:13:21 AM	Access Granted	Normal		
3/2/2001	12:42:09 PM	Access Granted	Normal		
3/3/2001	7:22:43 PM	Access Denied	Normal		
3/5/2001	10:56:59 AM	Access Granted	Normal		IVINS, BRUCE E.
3/5/2001	11:01:03 AM	Access Granted	Normal		
3/5/2001	2:09:24 PM	Access Granted	Normal		
3/6/2001	10:46:00 AM	Access Granted	Normal		
3/6/2001	10:48:33 AM	Access Granted	Normal		
3/6/2001	11:17:41 AM	Access Granted	Normal		
3/6/2001	1:25:57 PM	Access Granted	Normal		
3/6/2001	5:21:56 PM	Access Granted	Normal		
<del>3/7/2001</del>	10:27:12 AM	Access Granted	Normal		
<del>3/7/2001</del>	10:32:28 AM	Access Granted	Normal		
<del>3/7/2001</del>	4:23:40 PM	Access Granted	Normal		
3/8/2001	9:02:57 AM	Access Granted	Normal		
3/8/2001	1:04:38 PM	Access Granted	Normal		

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ALL FBI INFORMATION CONTAINED  
~~HEREIN IS UNCLASSIFIED~~  
DATE 01-06-2009 BY 65179 dmh/baw

Please check appropriate block and route through appropriate approving authority.

<input type="checkbox"/>	REAGENT MATERIAL	___ Non-hazardous or ___ Hazardous (thru: Safety Office)
<input type="checkbox"/>	DIAGNOSTIC SPECIMEN [Classification Group ___(a) ___(b) ___(c)] (thru: Safety Office)	
<input type="checkbox"/>	CONTROLLED BIOLOGICAL OR BIOLOGICAL PRODUCT	
<input type="checkbox"/>	___ Human or ___ Non-Human / ___ inv. ___ bc-list (thru: Clinical Use Biologics Control Officer)	
<input checked="" type="checkbox"/>	INFECTIOUS SUBSTANCE (ETIOLOGIC AGENT), AFFECTING HUMANS (thru: Safety Office)	200103
<input type="checkbox"/>	INFECTIOUS SUBSTANCE (ETIOLOGIC AGENT), AFFECTING ANIMALS ONLY (thru: Safety Office)	
<input type="checkbox"/>	TOXIN (ETIOLOGIC AGENT) (thru: Safety Office)	
<input type="checkbox"/>	RADIOACTIVE MATERIAL (thru: Radiation Protection Office)	
<input type="checkbox"/>	BIOLOGICAL AGENT, NON-INFECTIOUS (thru: Safety Office)	
<input type="checkbox"/>	OTHER: Non-hazardous, or Hazardous (thru: Safety Office)	

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b7C

Description of material(s): 1 unc cyrotube of Bacillus anthracis Ames; RMR 1029, 0.5ml per vial, at approximately 3x10<sup>8</sup>/ml

Quantity (ml, mg, ...): 0.5 total ml

Ship to Address (include telephone number, day and emergency, of recipient). Emergency number must be physically manned 24 hours a day. No pagers or cell phone numbers.   Cancer Research Facility  
Room 321, UNMHSC, 915 Camino de Salud, Albuquerque, NM 87131 Day - 505/272-4450 or 505/272-4720,  
24-hour - 505/822-9056

Required Shipment Date: March 7, 2001

Charge to APC

Method of Shipment Requested:

Special Requirements:

UPS  
☒ Air Express  
USAMRIID Courier  
Other:

☐ None  
☐ Dry Ice  
☒ Refrigerated (wet ice, cold pack)  
☐ Other:

Name, Address, Telephone Number (include day and emergency) of Sender:

Date: 6 Mar 01

Bruce Ivins, 1425 Porter Street, Ft. Detrick, MD 21702 Day - [REDACTED] 24-hour - [REDACTED]

I certify that the contents of this consignment are fully and accurately described above.

Signature of Division Chief:

Date: 3/02/01

LOGISTICS DIVISION - MATERIEL SERVICES

DELIVERY:

Delivered to:

Date:

PACKAGING: I certify that this consignment is packaged for shipment according to applicable IATA and DOT packing instructions.

Printed Name and Signature of Certifying Official:

Date:

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b7C

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ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-06-2009 BY 65179 dmh /baw

Between April 10, 2007 and April 29, 2007, Special  
Agents [redacted] and [redacted]  
reviewed [redacted]

[redacted] in  
response to Federal Grand Jury subpoena number 5429, issued in  
the District of Columbia on March 20, 2007. The purpose of the  
review was to: 1) Identify previously unknown transfers of RMR-  
1029 (i.e. transfers not on the RMR-1029 inventory); 2) Identify  
possible photocopy and tape exemplars from the time of the  
mailings to compare to the tape and photocopied letters used in  
the attacks. Attached hereto is an inventory of the laboratory  
notebooks reviewed with notations indicating: date received, date  
reviewed, date returned, reviewer, comments on the contents of  
the notebook, and 1B numbers (if applicable) [redacted]

b3  
b6  
b7C

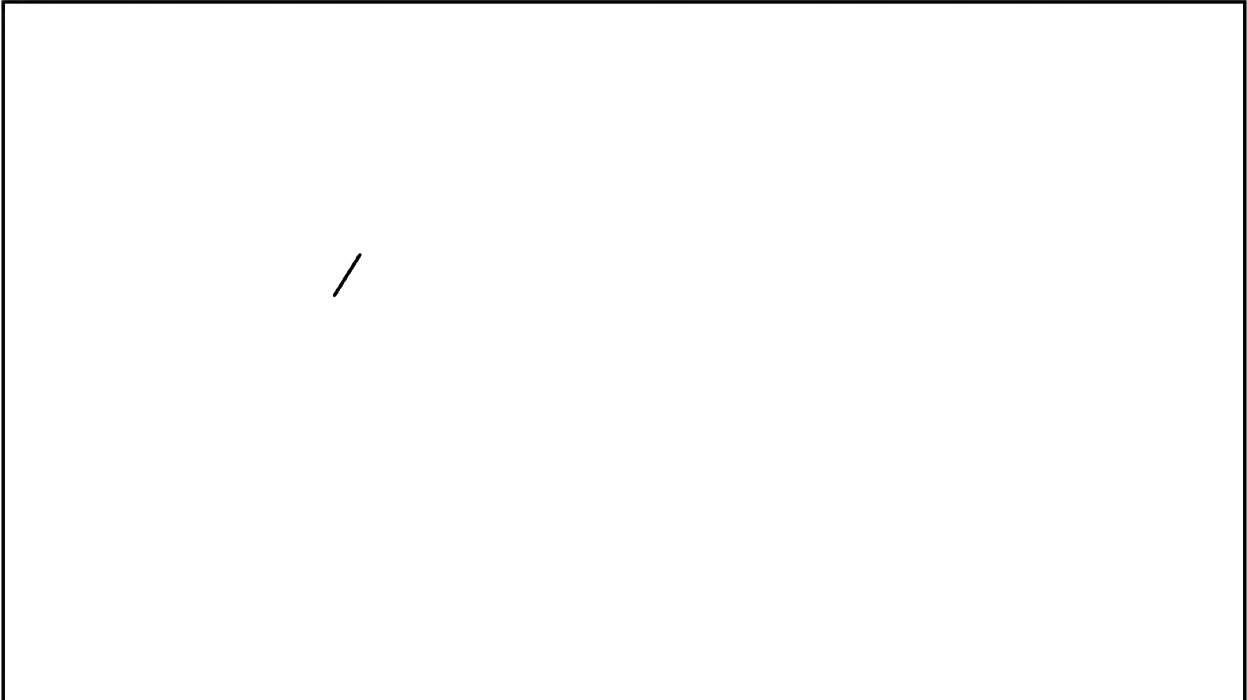
Notebook 4282, IVINS / [redacted] Pages 65 through 70 contain  
experiments conducted between 08/23/2001 and 09/18/2001,  
including the growth of *Ba Ames*. [redacted]

Notebook 4237, IVINS. Page 9 contains a determination of the  
CFU/ml for RMR-1029 to be  $4.3 \times 10^{10}/\text{ml}$ , which was previously  
unknown to Amerithrax investigators. Pages 9 and 13 contain  
studies using RMR-1029 which are absent from the inventory sheet  
and are therefore previously unknown uses of RMR-1029 by IVINS.

Notebook 3745, IVINS. Page 60 indicates 1 ml of "GLP Ames Spores  
 $\sim 3 \times 10^{10}/\text{ml}$ " were used for a temperature sensitivity study on  
03/16/1999. This is a previously unknown use of RMR-1029. Page  
61, dated 03/25/1999, indicates that the viability of RMR-1029 is  
 $2.3 \times 10^{10}/\text{ml}$  and that 0.2ml of RMR-1029 will be used for a rabbit  
challenge. This is a previously unknown use of RMR-1029. Pages  
63, 64, and 66 (dated 05/06/1999, 05/06/1999, and 05/10/1999)  
describe experiments determining the best recipe for capsule  
broth, using 0.25 ml of RMR-1029 for each experiment. Pages 68  
and 69 (dated 08/19/1999) describe the use of 0.25ml of RMR-1029  
for a rabbit challenge. This is a previously unknown use of RMR-  
1029.

Notebook 4240, IVINS. Page 9 describes the use of 1.2 ml of Ames spores at  $\sim 3 \times 10^{10}/\text{ml}$  to test the efficacy of the commercial product "911 Relief." Page 19 (dated 03/18/2002) describes the use of 1.2 ml of RMR-1029 to test the efficacy of the commercial product Sporocidin.

b3  
b6  
b7C



RIID NOTEBOOKS.xls

Notebook #	PI	Secondary	Received	Reviewed	Reviewer	Comments	Returned	Location
1564	Ivins					last entry November 1981 (book full).	5/4/2007	
1599	Ivins					last entry July 1982 (book full).	5/4/2007	
1670	Ivins					last entry March 1983 (book full)	5/4/2007	
1748	Ivins					See Attached	4/19/2007	
1844	Ivins					last entry July 1984 (book full)	4/19/2007	
1914	Ivins					last entry December 1985 (book full)	4/19/2007	
2064	Ivins					last entry December 1987	4/19/2007	
3080	Ivins					last entry June 1988 (book full).	4/19/2007	
3114b	Ivins					See Attached	4/19/2007	
3209	Ivins					See Attached	4/19/2007	
3233	Ivins					See Attached	4/19/2007	
3234	Ivins					See Attached	4/19/2007	

RIID NOTEBOOKS.xls

b3  
b6  
b7c

Notebook #	PI	Secondary	Received	Reviewed	Reviewer	Comments	Returned	Location
3269	Ivins					Last entry Nov 1993 (book full)		
3270	Ivins					Last entry September 1993 (last page 75).		
3464	Ivins					Last entry Dec 1995 (book full).		
3465	Ivins					Last entry August 1993 (book full).		
3472	Ivins					See Attached		
3545	Ivins					See Attached		
3563	Ivins					Last entry August 1994 (book full)		
3655	Ivins					See Attached		

## RIID NOTEBOOKS.xls

Notebook #	PI	Secondary	Received	Reviewed	Reviewer	Comments	Returned	Location
3685	Ivins					See Attached		
3716	Ivins					See Attached		
3745	Ivins					last entry Jan 00 (last page 77). Some Refs to RMR1029 that I had not seen. Copied these pages for our records.		
3760	Ivins					last entry july 1995 (last page 27). Lyophilization refs using Vertis shelf Iyo.		
3919	Ivins		4/9/2007	4/11/2007		See Attached		
3920	Ivins		4/9/2007	4/10/2007		See Attached		
3921	Ivins		4/9/2007	4/17/2007		We have complete copy of this notebook.		
3945	Ivins		4/9/2007	Various				

RIID NOTEBOOKS.xls

Notebook #	PI	Secondary	Received	Reviewed	Reviewer	Comments	Returned	Location
4000	Ivins					Last entry July 2001 (book full) We have complete copy of this notebook.		
4010	Ivins							
4037	Ivins							
4103	Ivins					last entry January 2000. Rabbit and NHP aerosol studies. No RMR-1029 refs.		



## RIID NOTEBOOKS.xls

Notebook #	PI	Secondary	Received	Reviewed	Reviewer	Comments	Returned	Location
4237	Ivins					Last entry June 2000 (page 23). One ref to RMR1029 copied pages.		
4240	Ivins					First entry on 10/14/01 (page 7). Some small photocopies from Nov 2001. Pages 51- 108 left blank then P109 starts new expts. P125 talks about trying sucrose gradient in place of Hypaque (10/18/04).		
4241	Ivins					Dates in the window. Last entry December 2002 (last page 43). Detail is minimal compared to the other notebook entries by Ivins. Has tape and photocopies during the window.		
4281	Ivins					Last entry 6/25/01. Many studies in this book on the characterization of affects of different variables on Vollum 1B spore counts (spores used by Bioport). Variable conditions include storage (tube type, spore conc., phenol or not), Agar media, capsule agar, and phase contrast values.		
4282	Ivins					Copied several pages from time of mailings. See 1A GJ 1100		
4306	Ivins					Last entry Jan 2001 (last page 48). Characterization of Vollum 1B spores used at		

**Notebook #1511, Bruce Ivins, 11/02/1988 to 05/22/1989**b3  
b6  
b7CALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-06-2009 BY 65179 dmh/baw

- DNA preps
- Restriction Digests
- CsCl preps
- plasmid screening
- immunization studies
- MDPH-vaccinated guinea pig challenge with Ames spores
- concentration of Sterne spores for injection
- Ames spore concentration
- Renograffin purification of Ba spores (pg. 56)

**Notebook #1748, Bruce Ivins, 03/01/1983 to 11/10/1983**

- optimization of growth conditions for toxin production in R-media
- toxin production R-media with and without additives
- growth of anthracis in the presence of transferrin
- growth curves (A540 vs. CFU/mL) Ames, V1B, Sterne, and V770-NPI-R

**Notebook #3114B, Bruce Ivins, 05/26/1988 to 01/05/1989**

- immunization studies
- plasmid isolation
- Syntex Corporation, SAF-1 as adjuvant
- MDPH lot testing
- obtaining streptomycin resistant mutants of Sterne

**Notebook #3167, Bruce Ivins, 05/19/1989 to 04/06/1990**

- plasmid preps
- Renograffin - Density vs. refractive index
- preparation of dialysis tubing
- MPL as an adjuvant
- enriched L-broth
- Baculovirus PA production
- Penicillin in plasmid prep
- PCR
- primer sequences for Ba CAP
- antibody purification

- R media
- MDPH protection studies

**Notebook #3209, Bruce Ivins, [REDACTED] 01/31/1990 to 01/06/1995**

b3  
b6  
b7C

- plasmid screening methods
- plasmid curing
- PCR capsule genes
- DNA preps
- sporulation data
- cloning of beta-lactamase gene
- southern blots
- B. subtilis transformation
- "penicillin" pg 76

**Notebook #3233, Bruce Ivins, 03/16/1990 to 09/28/1992**

- Renografin purification of spores
- PCR CAP
- Novobiocin curing strains
- spore production
- gamma irradiation of spores
- adjuvant work
- DNA preps

**Notebook #4282, Bruce Ivins, [REDACTED] 06/08/2000 to 09/18/2001**

- anthracis strain gelatin studies
- spore production of different strains of anthracis
- different colony morphology noted in Kruger A (pg 11)

**Notebook #4383, Bruce Ivins, [REDACTED] 08/09/2001 to 08/16/2002**

- vaccine challenges
- 4Feb02 - describe passaging two colony types to see if they "hold true" (pg 26)
- 5Feb02 - colony types hold true (pg 27)
- 7Feb02 - colony type holds true again (pg 27), hope to look at phenomenon in a genetic way (pg 28)
- no entries from 02/21/2002 to 03/05/2002
- 15Mar02 - performed plasmid preps on rough and smooth colony types of Kruger A (pg 29)
- no entries from 04/09/2002 to 04/14/2002

**Notebook #3920, Bruce Ivins, 09/03/1996 to 09/03/1997**

- LD50 studies Vollum1B

-heat shocking

-Passive protection trial with anti-AVA human sera

-05/21/1997 (pg 34) RMR 1028 (Vollum1B spore stock)

**Notebook #3655, Bruce Ivins, 07/27/1994 to 09/19/1997**b3  
b6  
b7C

- aerosol challenge experiments anthrax
- (pg 29 9Feb95) "Then I lyophilized the material..." reference to PA from [REDACTED]
- 5 batch purification (Renografin) of Ames spores (pg 40) 4/12/95
- Ames spore concentration: about 125mL of  $1.25 \times 10^{10}$  CFU/mL (pg 42)
- e-mail dated "2/9/96" regarding Ames and Vollum 1B history ([REDACTED] to Bruce Ivins) pg 65
- (pg 72 [REDACTED] and Ivins purify (Renografin) 8 batches of Ames spores  $3.18 \times 10^{12}$  CFU total at  $1.27 \times 10^{10}$  CFU/mL, dated 3/8/96
- (pg 74) 4 batch purification (Renografin) of Ames spores combined with previous batch on pg 72 combined volume of 300mL at 1.22 to  $2.2 \times 10^{10}$ /mL (pg 75)
- e-mail dated "1/17/1997" from Ivins regarding "SPORES, SPORES, SPORES..." calculations that 13 Ames runs (2L each) produced  $3 \times 10^{12}$  spores
- (pg 89, 1/17/96) Calculations:  $2.3 \times 10^{11}$  per run;  $1.15 \times 10^8$  spores per mL (after purification)
- (pg 100, 3/18/96) Renografin-76 no longer made, substitute Renocal-76.

**Notebook #3919, Bruce Ivins**

[REDACTED] 09/03/1996 to 03/27/2000

b3  
b6  
b7C

- TSA plate comparisons
- spore germination in monkey serum
- loss of spore heat resistance in monkey serum
- spore blebbing

**Notebook #3234, Bruce Ivins, 03/16/1990 to 02/03/1992**

- mixing plasmids of different strains
- purification of spores
- animal challenges
- differences in immunization of male and female mice
- Titers of monkeys given MDPH and poly ICC
- toxin toxicities in various species
- microencapsulation
- comparison of MDPH lots

**Notebook #3545, Bruce Ivins**

[REDACTED] 06/16/1993 to 02/21/1995

- competitive binding assay
- MTT assay

**Notebook #3685, Bruce Ivins, 11/30/1994 to 02/26/1996**

- dose titration of PA and alhydrogel in monkeys
- autoclaving of alhydrogel
- preparation of vaccine
- preparation of placebo
- endotoxin determination
- dialysis tubing
- plate counts
- dilution of spores for aerosol

**Notebook #3716, Bruce Ivins**

[REDACTED] 01/24/1995 to 10/05/2001

- Capsule production
  - PA production
  - Ames dilution for challenges
  - restriction digests and gels
  - PCR of toxin genes
  - 3Oct95 (pg 25) smooth vs rough colony types
  - plasmid preps
-

- 1 -

## FEDERAL BUREAU OF INVESTIGATION

b6  
b7c

Date of transcription 12/19/2007

[redacted] date of birth: [redacted] social  
security account number: [redacted] work telephone number:  
[redacted] cellular telephone number: [redacted] was  
interviewed at [redacted] place of employment, [redacted]

[redacted] After being advised  
of the identities of the interviewing agents and the purpose of  
the interview, [redacted] provided the following information:

[redacted] was familiar with the U.S. Army Research  
Institute of Infectious Diseases (USAMRIID) as [redacted] went there to  
give a presentation on Rehydragel, an adjuvant used in vaccines,  
on two occasions. [redacted] could not recall the time frame for the  
visits to USAMRIID. [redacted] checked [redacted] Rolodex for business  
cards belonging to individuals from USAMRIID and located a card  
of BRUCE IVINS. [redacted] located two "Sales Contact Reports" for  
[redacted] trips to USAMRIID and a letter sent to IVINS after [redacted] first  
visit to USAMRIID. [redacted] provided copies of the letter and  
reports, which will be placed the 1A section of the file [redacted]  
believed that [redacted] visits to USAMRIID were the result of being  
contacted by IVINS who inquired about Rehydragel. No one from  
USAMRIID ever visited [redacted]

According to the sales contact reports the dates of the  
visits to USAMRIID by [redacted] are January 27, 2000 and April 28,  
2003. The reports indicate that BRUCE IVINS, [redacted]

[redacted] were present at the  
January 2000 meeting and that IVINS, [redacted] and  
FNU [redacted] were present at the April 2003 meeting. In the  
report [redacted] noted that the Rehydragel was of interest for  
possible use in a new recombinant protective antigen anthrax  
vaccine.

[redacted] was presented with a non-disclosure agreement  
which [redacted] signed in the presence of the interviewing agents.  
This non-disclosure agreement will be placed in the 1A with the  
interview notes and the documents described above.

ALL INFORMATION CONTAINED  
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DATE 01-07-2009 BY 65179 dmh/baw

Investigation on 12/17/2007 at [redacted]

File # 279A-WF-222936-SCI [redacted] -25

Date dictated 12/19/2007

by

SA [redacted]  
SA [redacted]

- 1 -

## FEDERAL BUREAU OF INVESTIGATION

ALL INFORMATION CONTAINED

HEREIN IS UNCLASSIFIED

DATE 01-07-2009 BY 65179 dmh /baw

Date of transcription 10/31/2007b6  
b7c

[redacted] Date of Birth [redacted] SSAN: [redacted]  
[redacted] was interviewed at [redacted] residence located at [redacted]  
[redacted] by Special Agent (SA) [redacted]  
[redacted] Federal Bureau of Investigation (FBI), Washington Field  
Office and Postal Inspector (PI) [redacted] Washington  
Division. [redacted] read and signed a Non-Disclosure Agreement which  
was placed in an FD-340 of the 1A subfile. [redacted] also reviewed a  
building floor plan of the United States Army Institute of  
Infectious Diseases (USAMRIID) Building [redacted] made comments  
on the floor plan along with SA [redacted] the floor plan was also  
placed in an FD-340 of the 1A subfile. [redacted] was advised of the  
identity of the interviewing agents and the purpose of the  
interview. [redacted] provided the following information:

[redacted]

[redacted] worked at USAMRIID from [redacted] to [redacted]

[redacted] was a [redacted] at USAMRIID. [redacted]

[redacted] was provided with good experience at USAMRIID [redacted]  
[redacted] worked in Building [redacted] and  
[redacted] spent most of [redacted] time [redacted] in the main  
building at USAMRIID. The [redacted] floor is where the lab  
technicians were located. [redacted]

[redacted]

[redacted] did  
not have access to freezers that held the test vials used in the  
tests [redacted] and others working with [redacted] would record [redacted]

[redacted]

Investigation on 09/19/2007 at [redacted]

File # 279A-WF-222936-SCI39 54

Date dictated 10/31/2007

by SA [redacted]  
PI [redacted]



279A-WF-222936-SCI39

Continuation of FD-302 of [REDACTED], On 09/19/2007, Page 2

[REDACTED]  
[REDACTED] left USAMRIID in [REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED] did not have much interaction with researchers located in the same building.

[REDACTED]

[REDACTED] did not recognize the names [REDACTED]  
[REDACTED] did recognize the names  
BRUCE IVINS, [REDACTED] and [REDACTED]  
[REDACTED] remembered IVINS, but could not recall anything  
specific about him. [REDACTED] remembered [REDACTED] by name only. [REDACTED]  
keeps in contact with [REDACTED] who is in contact with [REDACTED]  
[REDACTED] thought the last name of the company commander was [REDACTED]

[REDACTED]

[REDACTED]

After looking at a 6 3/4 inch size pre-stamped envelope provided by agents, [REDACTED] advised that [REDACTED] did not recognize that size pre-stamped envelope. If [REDACTED] purchased pre-stamped envelopes, they would have been size #10 (letter size) from the base Post Office at the counter. [REDACTED] thought that the symbol on the pre-stamped area of the envelope [REDACTED] could have purchased was a liberty bell. At the time [REDACTED] mainly paid [REDACTED] bills online, and would not have purchased pre-

279A-WF-222936-SCI39

b6  
b7C

Continuation of FD-302 of [REDACTED], On 09/19/2007, Page 3

[REDACTED] stamped envelopes for [REDACTED]. It was possible that [REDACTED] utilized pre-stamped envelopes to mail letters to [REDACTED]. [REDACTED] said that [REDACTED] would contact [REDACTED] to determine if [REDACTED] had any pre-stamped letters from [REDACTED]. [REDACTED] would take possession of the letters for investigators.

[REDACTED] advised that the pre-stamped envelopes (letter size) could have been in [REDACTED] that would have been used for official communications. [REDACTED] recalled that the office had pre-stamped envelopes for [REDACTED]. The letters contained official US Army letterhead. [REDACTED] did not recall official envelopes being utilized [REDACTED].

[REDACTED] was shown a floor plan for USAMRIID building [REDACTED] where [REDACTED] worked. [REDACTED] made comments of where [REDACTED] was located among other things. SA [REDACTED] wrote on the floor plan as [REDACTED].

[REDACTED] advised that [REDACTED] would have known where the pre-stamped envelopes were located. [REDACTED]

[REDACTED] could not think of anyone who could have done the Anthrax mailings of 2001. [REDACTED] did not know anyone with ties to New Jersey.

The following information was obtained through observation or interview:

Name:  
DOB:  
SSAN:  
Home Address:  
  
Home Phone Number:  
Work Address:  
  
Work Phone Number:  
Cell Phone Number:

--

- 1 -

## FEDERAL BUREAU OF INVESTIGATION

b6  
b7CDate of transcription 06/14/2007

On 06/12/2007, SA [ ] obtained items 1B 4291 and 1B 4292 from Evidence Technician [ ] of the FBI Northern Virginia Resident Agency Evidence Control Center and transported the items to the FBI Laboratory in Quantico, Virginia. 1B 4291 is further described as one (1) plastic coffee cup (Bruce Ivins) and 1B 4292 is described as one (1) diet coke soda can [ ]

The evidence was submitted for analysis to the laboratory under cover of electronic communication 279A-WF-222936-SCI20 Serial 10. Evidence Control Physical Scientist, Evidence Analyst [ ] [ ] accepted custody of the evidence at approximately 4:15 p.m. from SA [ ] and assigned it FBI Laboratory number 070612025. A copy of the Laboratory Chain-of-Custody Form has been attached to this FD-302 for reference.

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-08-2009 BY 65179 dmh/baw

Investigation on 06/12/2007 at Quantico, VAFile # 279A-WF-222936-SCI20 - 11 Date dictated \_\_\_\_\_

by SA [ ]

# FBI Laboratory Chain-of-Custody Log

b6  
b7c

Laboratory No.: 070612025

Case ID No.: 279A-WF-222936-SCI 20

Container(s)	Received Via	Accepted By	Date	Contributor
2 Envelopes	<div style="border: 1px solid black; height: 20px; width: 100%;"></div> <small>Unit</small>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div> <small>Unit</small>	6/12/07	FBI WFO

Tracking No(s): Personal Delivery

Opened for Retrieval of Communication By

Date: 6/12/07☐ Shipping Container Damage

ECC Comments:

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HEREIN IS UNCLASSIFIED  
DATE 01-08-2009 BY 65179 dmh /baw

Container(s)	Delivered By	Accepted By	Date	Remarks
2 Envelopes	<div style="border: 1px solid black; height: 20px; width: 100%;"></div> <small>Unit</small>	Into ECU Storage <input type="checkbox"/> Refrigerator <input type="checkbox"/> Safe <input checked="" type="checkbox"/> Shelf <small>Unit</small>	6/12/07	
	From ECU Storage <small>Unit</small>	<small>Signature</small>		
	<small>Unit</small>	<small>Unit</small>		
	<small>Signature</small>	<small>Signature</small>		For Inventory
	<small>Unit</small>	<small>Unit</small>		
<b>Items Received:</b>				
	<small>Signature</small>	<small>Signature</small>		
	<small>Unit</small>	<small>Unit</small>		
	<small>Signature</small>	<small>Signature</small>		
	<small>Unit</small>	<small>Unit</small>		
	<small>Signature</small>	<small>Signature</small>		
	<small>Unit</small>	<small>Unit</small>		

## FEDERAL BUREAU OF INVESTIGATION

**Precedence:** ROUTINE

**Date:** 04/05/2007

**To:** Washington Field

**Attn:** Amerithrax

ALL INFORMATION CONTAINED

HEREIN IS UNCLASSIFIED

DATE 01-08-2009 BY 65179 dmh /baw

**From:** Washington Field

Amerithrax-2

**Contact:** SA [REDACTED]

b6  
b7C

**Approved By:** [REDACTED]

**Drafted By:** [REDACTED]

**Case ID #:** 279A-WF-222936 Sub Sci3 (Pending) -14

**Title:** AMERITHRAX;  
MAJOR CASE 184

**Synopsis:** To request additional evaluation of FBI repository samples established as genetically positive for A1, A3, A1/A3, A1/D and A3/D mutations.

**Details:** The FBI Repository (FBIR) was established in order to genetically screen all subpoenaed, seized, and collected *Bacillus anthracis* (Ba) Ames samples for genetic mutations identified within the evidentiary powder from the 2001 Anthrax mailings.

To date, 1059 total samples have been screened using genetic assays developed to identify mutations consistent with those found in the 2001 evidentiary powder, A1, A3, and D. Nine of these 1059 samples (0.84% of the total samples evaluated) have been identified to have mutations for A1, A3, and D mutations collectively, are all believed originate from the same spore material, RMR 1029. Five of the samples (0.47%) were identified to contain only the A3 mutation, and sixteen of the samples were identified to contain only the A1 mutation (1.51%). All samples that contained both the A1 and A3 mutation combined (A1/A3 positive) also had the D mutation (A1/A3/D positive). Collectively, samples containing the A1 mutation, A3 mutation, or both A1 and A3 mutations combined, total less than 2% (1.89%) of the total repository samples collected and screened. Samples testing as genetically



To: Washington Field From: Washington Field  
Re: 279A-WF-222936-Sci3, 04/05/2007

positive for both the A3 and D mutations (two of the 1059) and genetically positive for both A1 and D mutations (five of the 1059) are even more rare.

In some instances, morphological (phenotypic) analyses conducted by [redacted] United States Army Medical Research Institute of Infectious Diseases (USAMRIID) were able to confirm the presence of aforementioned mutations when phenotypic results were compared to the genotypic findings.

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A review of the results of the genetic screening of FBIR samples suggests time points at which specific mutations may have arisen. Specifically, the A1 mutation was found in Ba material transferred to the U.S. Army Dugway Proving Ground, in 1992 and 1997 from USAMRIID. These spores containing the A1 mutation were originally transferred to Dugway Proving Ground by Dr. Bruce Ivins, Bacteriology Division. In addition, material collected from USAMRIID, dated 03/01/1991, tested positive for the A1 mutation. In contrast to the A1 results, no samples positive for the A3 mutation are known to exist predating the compilation of RMR 1029 in October of 1997. Gathering additional information about samples with single and double mutation matches could present investigators with a better understanding of where and when the A1 and A3 mutations arose.

It is recommended that additional investigation into the FBIR matrix material (information accompanying or labeled on each submission), collected scientific notebooks, interviews and statements (ACS/302's), [redacted], and select material transfer documents (11R's and EA 101's) be undertaken in order to establish detailed background information for these additional FBIR samples.

b7E

To: Washington Field From: Washington Field  
Re: 279A-WF-222936-Sci3, 04/05/2007

LEAD(s):

Set Lead 1: (Action)

WASHINGTON FIELD

AT AMERITHRAX 2

Washington Field Office is requesting that SA [ ]  
[ ] conduct investigations to obtain information on FBI  
repository samples established as genetically positive for A1,  
A3, A1/A3, A1/D and A3/D mutations.

b6  
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♦♦

# FEDERAL BUREAU OF INVESTIGATION

Precedence: ROUTINE

Date: 06/10/2008

To: Washington Field

Attn: SSA [REDACTED]

b6  
b7C

From: Laboratory  
CBSU  
Contact [REDACTED]

Approved By: [REDACTED]

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-08-2009 BY 65179 dmh /baw

Drafted By: [REDACTED]

Case ID #: 279A-WF-222936-USAMRIID (Pending)

*1805 = charged out*

*30134 - 14*

Title: AMERITHRAX;  
MAJOR CASE # 184

Synopsis: To provide original laboratory reports to the case file.

Reference: 279A-WF-222936-USAMRIID Serial 1763

Enclosure(s): Enclosed in this document are two original laboratory reports; Report of NBFAC.071102.0001 - (31 pages) Report of NBFAC.071102.0001; Addendum to Report DR318 - (4 pages), from the National Bioforensic Analysis Center (NBFAC) detailing analyses conducted in support of the captioned investigation and a 2 page memorandum from the NBFAC identifying a nonconformance in the analysis of samples for the *Bacillus subtilis* ID65 genetic marker. Also included in this document is an original laboratory report from The Institute for Genome Sciences; Multiple locus PCR-bases assay for the direct comparison of one unknown *B. subtilis* isolates to *B. Subtilis* New York Post ( 24 pages).

Details: As part of the investigation of the mailings of letters containing anthrax which were sent to the New York Post, Tom Brokaw and United States Senators Tom Daschle and Patrick Leahy in the fall of 2001, whole genome sequencing of a *Bacillus subtilis* contaminant from the Post letter was conducted by The Institute of Genomic Research (TIGR). This genetic information was used to develop a PCR detection assay to detect the *Bs* contaminant in a questioned sample.

*08-0987*



To: Washington Field From: Laboratory  
Re: 279A-WF-222936-USAMRIID, 06/10/2008

During a search conducted at the residence of Dr. Bruce Ivins, his vehicles, and his work and office spaces within building 1425 of USAMRIID the United States Medical Research Institute of Infectious Diseases (USAMRIID) on November 1, 2007, the AMERITHRAX Task Force (AMXTF) collected biological samples in support of the captioned investigation.

Samples were submitted to the National Bioforensic Analysis Center, Fort Detrick, MD, for analyses of *Bacillus anthracis* (Ba) and *Bacillus subtilis* (Bs) molecular targets, and subsequently to The Institute for Genome Sciences (IGS), Baltimore, MD, for additional testing of isolated Bs colonies.

The Chemical Biological Sciences Unit (CBSU), Laboratory Division, was asked by the AMXTF to facilitate the analysis of the above mentioned samples and the following reports are being submitted to the captioned case file which outline the results:

Report of NBFAC.071102.0001 - (31 pages dated 08 January 2008) Analytical results for the detection of *Bacillus subtilis* and *Bacillus anthracis* from samples received at the NBFAC on 02 November 07.

Report of NBFAC.071102.0001; Addendum to Report DR318 - (4 pages dated 15 January 2008). Analytical results from the molecular analysis of 29 samples of *Bacillus anthracis* not yet complete when report DR318 was provided.

Addendum to Report DR318 for Case: NBFAC.071102.0001; FBI Case # 279A-WF-222936 - ( 3 pages dated 25 April 2008). Analytical results for the preparation and shipment of high molecular weight DNA from a sample from case NBFAC.071102.0001.

Multiple locus PCR-bases assay for the direct comparison of one unknown *B. subtilis* isolates to *B. Subtilis* New York Post - ( 24 pages dated June 9, 2008 ). Analytical results from DNA purified from FBI sample "s1"; NBFAC.071102.001.0012

CBSU requests guidance from the AMXTF as to the disposition of the samples referenced in the enclosed report.

Any questions should be directed to SSA [redacted]

[redacted] ChemBio Sciences Unit, Laboratory Division: [redacted]  
[redacted]

b6  
b7C

To: Washington Field From: Laboratory  
Re: 279A-WF-222936-USAMRIID, 06/10/2008

LEAD(s) :

Set Lead 1: (Action)

WASHINGTON FIELD

AT NVRA

1. CBSU requests guidance from the AMXTF as to the disposition of the samples referenced in the enclosed report(s)
2. Maintain original laboratory report for case file.

♦♦

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-08-2009 BY 65179 dmh/baw



Date: January 16, 2008  
To: [REDACTED]  
From: [REDACTED]  
Subject: Reanalysis of Samples for the *Bacillus subtilis* ID65 genetic marker

b6  
b7c

On 15 October 2007, NBFAC identified a nonconformance in the analysis of samples for the *Bacillus subtilis* ID65 genetic marker. The nonconformance identified samples which were tested for the ID65 genetic marker using an ID65BP (ID65) forward primer which differed from the sequence contained in the "FBI Analytical plan for the detection of *Bacillus subtilis* in samples from case NBFAC04.027" dated 17 April 2006 (SOP version 4/14/2006) by two bases. Upon investigation, it was found the following cases (# samples) were affected:

NBFAC.070125.001 (3)  
NBFAC.070215.0001 (156)  
NBFAC.070314.0001 (117)  
NBFAC.070314.0002 (47)  
NBFAC.070314.0003 (2)

The FBI was notified of this nonconformance and an improvement issue (IMPROV20073120) was initiated in the NBFAC quality management system to investigate the nonconformance. A new ID65 forward primer (ID65BP For 2) was ordered using the oligonucleotide sequence contained in a document received from the FBI in September 2006, in a shipment with positive controls for use with the *B. subtilis* assays. Though the sequences for the newly received positive controls were accurate in the document, the primer sequence differed from the sequence contained in the "FBI Analytical plan for the detection of *Bacillus subtilis* in samples from case NBFAC04.027" as it contained an additional G at the end. Some samples were assayed for ID65 using the primer with the additional G. IMPROV20070312 was initiated to investigate this nonconformance.

On 11/1/07, the primer referenced in the "FBI Analytical plan for the detection of *Bacillus subtilis* in samples from case NBFAC04.027" dated 17 April 2006 (SOP version 4/14/2006) was ordered. The correct primer was used to assay all *sboA* positive or inconclusive samples for the ID65 target in all the cases listed above.

As a result of this nonconformance and the associated improvement issues NBFAC has developed master primer and probe order forms which contain the proper sequences verified by multiple individuals to ensure that only the proper oligonucleotide sequences are ordered in the future. In addition, the FBI has since provided NBFAC with an updated protocol for the detection of *Bacillus subtilis* in samples (issue date: 11/05/07) containing the correct positive control sequence.

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NBACC Program Office, 110 Thomas Johnson Drive, Suite 200, Frederick, MD 21702

DR 341

All *sboA* positive and inconclusive samples from the reports listed above were repeated using the correct primer. Upon analysis it was found that all results obtained with the correct primer were identical to those reported in the original reports (#DR2, #DR104). All samples analyzed are negative for ID65 sequence.

Approved by:



Director  
NBFAC  
16 January 2008

b6  
b7C

Reviewed by



Molecular Biology Manager  
NBFAC  
16 January 2008

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DATE 01-08-2009 BY 65179 dmh/baw



**Report of NBFAC.071102.0001**

08 January 2008

To: Unit Chief  
FBI Laboratory-CBSU  
2501 Investigation Pkwy  
FBI Laboratory, Room 3110  
Quantico, VA 22135

FBI Case No.: 279A-WF-222936  
NBFAC Case No.: NBFAC.071102.0001  
FBI Laboratory No.: N/A

Analytical results for the detection of *Bacillus subtilis* and *Bacillus anthracis* in samples from case NBFAC.071102.0001 using approved analytical plan # DR276, the associated addendums #DR293, #DR301, #DR321, and the memorandum #DR324; (AOW 62).

A. Table 1: List of samples received at NBFAC on 02 November 07 and accessioned at NBFAC between 05-07 November 2007.

National Bioforensic Analysis Center (NBFAC)  
1425 Porter St.  
Frederick, MD. 21702

Table 1: Samples received at NBFAC on 02 November 2007

NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0001	279A-WF-222936	s4	Sponge\Paddle Swab
NBFAC.071102.0001.0002	279A-WF-222936	s8	Sponge\Paddle Swab
NBFAC.071102.0001.0003	279A-WF-222936	s18	Sponge\Paddle Swab
NBFAC.071102.0001.0004	279A-WF-222936	s16	Sponge\Paddle Swab
NBFAC.071102.0001.0005	279A-WF-222936	s20	Sponge\Paddle Swab
NBFAC.071102.0001.0006	279A-WF-222936	s21	Sponge\Paddle Swab
NBFAC.071102.0001.0007	279A-WF-222936	s15	Sponge\Paddle Swab
NBFAC.071102.0001.0008	279A-WF-222936	s-11	Sponge\Paddle Swab
NBFAC.071102.0001.0009	279A-WF-222936	s-10	Sponge\Paddle Swab
NBFAC.071102.0001.0010	279A-WF-222936	s-9	Sponge\Paddle Swab
NBFAC.071102.0001.0011	279A-WF-222936	s5	Sponge\Paddle Swab
NBFAC.071102.0001.0012	279A-WF-222936	s1	Sponge\Paddle Swab
NBFAC.071102.0001.0013	279A-WF-222936	V1-S5	Sponge\Paddle Swab

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0014	279A-WF-222936	V1-S6	Sponge\Paddle Swab
NBFAC.071102.0001.0015	279A-WF-222936	V2-S2	Sponge\Paddle Swab
NBFAC.071102.0001.0016	279A-WF-222936	V2-S3	Sponge\Paddle Swab
NBFAC.071102.0001.0017	279A-WF-222936	V3-S4	Sponge\Paddle Swab
NBFAC.071102.0001.0018	279A-WF-222936	V3-S5	Sponge\Paddle Swab
NBFAC.071102.0001.0019	279A-WF-222936	Room 127-s	Sponge\Paddle Swab
NBFAC.071102.0001.0020	279A-WF-222936	Room 127-s	Sponge\Paddle Swab
NBFAC.071102.0001.0021	279A-WF-222936	B301-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0022	279A-WF-222936	19-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0023	279A-WF-222936	19-s3	Sponge\Paddle Swab
NBFAC.071102.0001.0024	279A-WF-222936	19-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0025	279A-WF-222936	B405-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0026	279A-WF-222936	B405-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0027	279A-WF-222936	B308/407-s	Sponge\Paddle Swab
NBFAC.071102.0001.0028	279A-WF-222936	B308/407-s	Sponge\Paddle Swab
NBFAC.071102.0001.0029	279A-WF-222936	B308/407-s	Sponge\Paddle Swab
NBFAC.071102.0001.0030	279A-WF-222936	B308/407-s	Sponge\Paddle Swab
NBFAC.071102.0001.0031	279A-WF-222936	B311-s-1	Copan Swab
NBFAC.071102.0001.0032	279A-WF-222936	B311-s-2	Sponge\Paddle Swab
NBFAC.071102.0001.0033	279A-WF-222936	B-311-s-3	Copan Swab
NBFAC.071102.0001.0034	279A-WF-222936	B-311-s-4	Copan Swab
NBFAC.071102.0001.0035	279A-WF-222936	B-311-s-5	Copan Swab
NBFAC.071102.0001.0036	279A-WF-222936	B-311-s-6	Copan Swab
NBFAC.071102.0001.0037	279A-WF-222936	B-311-s-7	Copan Swab
NBFAC.071102.0001.0038	279A-WF-222936	B-311-s-8	Copan Swab
NBFAC.071102.0001.0039	279A-WF-222936	B-311-s-9	Copan Swab
NBFAC.071102.0001.0040	279A-WF-222936	B-311-s-10	Copan Swab
NBFAC.071102.0001.0041	279A-WF-222936	B-311-s-11	Copan Swab
NBFAC.071102.0001.0042	279A-WF-222936	B-311-s-12	Sponge\Paddle Swab
NBFAC.071102.0001.0043	279A-WF-222936	B-311-s-13	Sponge\Paddle Swab
NBFAC.071102.0001.0044	279A-WF-222936	B-311-s-14	Sponge\Paddle Swab
NBFAC.071102.0001.0045	279A-WF-222936	B410-2	Copan Swab
NBFAC.071102.0001.0046	279A-WF-222936	B410-1	Sponge\Paddle Swab
NBFAC.071102.0001.0047	279A-WF-222936	B412-1	Copan Swab
NBFAC.071102.0001.0048	279A-WF-222936	B412-2	Sponge\Paddle Swab
NBFAC.071102.0001.0049	279A-WF-222936	B310-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0050	279A-WF-222936	B310-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0051	279A-WF-222936	B303-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0052	279A-WF-222936	B303-s2	Sponge\Paddle Swab

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0053	279A-WF-222936	B305-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0054	279A-WF-222936	B305-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0055	279A-WF-222936	B305-s3	Sponge\Paddle Swab
NBFAC.071102.0001.0056	279A-WF-222936	B409-1	Copan Swab
NBFAC.071102.0001.0057	279A-WF-222936	B409-2	Copan Swab
NBFAC.071102.0001.0058	279A-WF-222936	B409-3	Sponge\Paddle Swab
NBFAC.071102.0001.0059	279A-WF-222936	B404-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0060	279A-WF-222936	B404-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0061	279A-WF-222936	B404-s3	Sponge\Paddle Swab
NBFAC.071102.0001.0062	279A-WF-222936	B404-s4	Sponge\Paddle Swab
NBFAC.071102.0001.0063	279A-WF-222936	B404-s5	Sponge\Paddle Swab
NBFAC.071102.0001.0064	279A-WF-222936	B404-s6	Sponge\Paddle Swab
NBFAC.071102.0001.0065	279A-WF-222936	B404-s7	Sponge\Paddle Swab
NBFAC.071102.0001.0066	279A-WF-222936	B411-s8	Copan Swab
NBFAC.071102.0001.0067	279A-WF-222936	B404-s9	Copan Swab
NBFAC.071102.0001.0068	279A-WF-222936	B404-s10	Copan Swab
NBFAC.071102.0001.0069	279A-WF-222936	B411-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0070	279A-WF-222936	B411-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0071	279A-WF-222936	B411-s3	Sponge\Paddle Swab
NBFAC.071102.0001.0072	279A-WF-222936	B411-s4	Copan Swab
NBFAC.071102.0001.0073	279A-WF-222936	B411-s5	Sponge\Paddle Swab
NBFAC.071102.0001.0074	279A-WF-222936	B411-s5	Sponge\Paddle Swab
NBFAC.071102.0001.0075	279A-WF-222936	B411-s6	Copan Swab
NBFAC.071102.0001.0076	279A-WF-222936	B411-s7	Copan Swab
NBFAC.071102.0001.0077	279A-WF-222936	B-309s-1	Sponge\Paddle Swab
NBFAC.071102.0001.0078	279A-WF-222936	B-309s-2	Sponge\Paddle Swab
NBFAC.071102.0001.0079	279A-WF-222936	B-309-s-3	Copan Swab
NBFAC.071102.0001.0080	279A-WF-222936	B-309 s-4	Copan Swab
NBFAC.071102.0001.0081	279A-WF-222936	B-309 s-5	Copan Swab
NBFAC.071102.0001.0082	279A-WF-222936	B-309 s-6	Copan Swab
NBFAC.071102.0001.0083	279A-WF-222936	B-309 s-7	Copan Swab
NBFAC.071102.0001.0084	279A-WF-222936	B-309 s-8	Copan Swab
NBFAC.071102.0001.0085	279A-WF-222936	B403-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0086	279A-WF-222936	B403-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0087	279A-WF-222936	B403-s3	Copan Swab
NBFAC.071102.0001.0088	279A-WF-222936	B403-s4	Sponge\Paddle Swab
NBFAC.071102.0001.0089	279A-WF-222936	B403-s5	Sponge\Paddle Swab
NBFAC.071102.0001.0090	279A-WF-222936	B403-s6	Copan Swab
NBFAC.071102.0001.0091	279A-WF-222936	B403-s-7	Sponge\Paddle Swab

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0092	279A-WF-222936	B403-s8	Sponge\Paddle Swab
NBFAC.071102.0001.0093	279A-WF-222936	B406-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0094	279A-WF-222936	B406-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0095	279A-WF-222936	B406-s3	Sponge\Paddle Swab
NBFAC.071102.0001.0096	279A-WF-222936	B406-s4	Copan Swab
NBFAC.071102.0001.0097	279A-WF-222936	B406-s5	Copan Swab
NBFAC.071102.0001.0098	279A-WF-222936	B406-s6	Copan Swab
NBFAC.071102.0001.0099	279A-WF-222936	B406-s7	Copan Swab
NBFAC.071102.0001.0100	279A-WF-222936	B406-s8	Sponge\Paddle Swab
NBFAC.071102.0001.0101	279A-WF-222936	B406-s9	Sponge\Paddle Swab
NBFAC.071102.0001.0102	279A-WF-222936	B406-s10	Sponge\Paddle Swab
NBFAC.071102.0001.0103	279A-WF-222936	B406-s11	Sponge\Paddle Swab
NBFAC.071102.0001.0104	279A-WF-222936	B306-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0105	279A-WF-222936	B306-s-2	Sponge\Paddle Swab
NBFAC.071102.0001.0106	279A-WF-222936	B306-s-3	Sponge\Paddle Swab
NBFAC.071102.0001.0107	279A-WF-222936	B306-s-4	Sponge\Paddle Swab
NBFAC.071102.0001.0108	279A-WF-222936	B306-s-5	Sponge\Paddle Swab
NBFAC.071102.0001.0109	279A-WF-222936	B312-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0110	279A-WF-222936	B312-s2	Copan Swab
NBFAC.071102.0001.0111	279A-WF-222936	B312-s3	Sponge\Paddle Swab
NBFAC.071102.0001.0112	279A-WF-222936	B312-s4	Copan Swab
NBFAC.071102.0001.0113	279A-WF-222936	B312-s5	Copan Swab
NBFAC.071102.0001.0114	279A-WF-222936	B312	Copan Swab
NBFAC.071102.0001.0115	279A-WF-222936	B313-s1	Sponge\Paddle Swab
NBFAC.071102.0001.0116	279A-WF-222936	B313-s2	Copan Swab
NBFAC.071102.0001.0117	279A-WF-222936	B313-s3	Copan Swab
NBFAC.071102.0001.0118	279A-WF-222936	B313-s4	Sponge\Paddle Swab
NBFAC.071102.0001.0119	279A-WF-222936	B313-s5	Sponge\Paddle Swab
NBFAC.071102.0001.0120	279A-WF-222936	B313-s6	Copan Swab
NBFAC.071102.0001.0121	279A-WF-222936	B313-s7	Copan Swab
NBFAC.071102.0001.0122	279A-WF-222936	1	Sponge\Paddle Swab
NBFAC.071102.0001.0123	279A-WF-222936	2	Copan Swab
NBFAC.071102.0001.0124	279A-WF-222936	3	Copan Swab
NBFAC.071102.0001.0125	279A-WF-222936	4	Sponge\Paddle Swab
NBFAC.071102.0001.0126	279A-WF-222936	5	Copan Swab
NBFAC.071102.0001.0127	279A-WF-222936	6	Copan Swab
NBFAC.071102.0001.0128	279A-WF-222936	7	Sponge\Paddle Swab
NBFAC.071102.0001.0129	279A-WF-222936	8	Sponge\Paddle Swab
NBFAC.071102.0001.0130	279A-WF-222936	9	Sponge\Paddle Swab

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0131	279A-WF-222936	10	Sponge\Paddle Swab
NBFAC.071102.0001.0132	279A-WF-222936	11	Sponge\Paddle Swab
NBFAC.071102.0001.0133	279A-WF-222936	12	Copan Swab
NBFAC.071102.0001.0134	279A-WF-222936	13	Sponge\Paddle Swab
NBFAC.071102.0001.0135	279A-WF-222936	14	Sponge\Paddle Swab
NBFAC.071102.0001.0136	279A-WF-222936	15	Sponge\Paddle Swab
NBFAC.071102.0001.0137	279A-WF-222936	16	Sponge\Paddle Swab
NBFAC.071102.0001.0138	279A-WF-222936	17	Sponge\Paddle Swab
NBFAC.071102.0001.0139	279A-WF-222936	18	Sponge\Paddle Swab
NBFAC.071102.0001.0140	279A-WF-222936	1	Copan Swab
NBFAC.071102.0001.0141	279A-WF-222936	2	Copan Swab
NBFAC.071102.0001.0142	279A-WF-222936	3	Copan Swab
NBFAC.071102.0001.0143	279A-WF-222936	B4H-s1	Copan Swab
NBFAC.071102.0001.0144	279A-WF-222936	B4H-s2	Copan Swab
NBFAC.071102.0001.0145	279A-WF-222936	B4H-s3	Copan Swab
NBFAC.071102.0001.0146	279A-WF-222936	B4H-s4	Copan Swab
NBFAC.071102.0001.0147	279A-WF-222936	B4H-s5	Copan Swab
NBFAC.071102.0001.0148	279A-WF-222936	B301-s2	Sponge\Paddle Swab
NBFAC.071102.0001.0149	279A-WF-222936	19-E2	Granular Substance
NBFAC.071102.0001.0150	279A-WF-222936	19-E1	Granular Substance
NBFAC.071102.0001.0151	279A-WF-222936	19-E3	Granular Substance
NBFAC.071102.0001.0152	279A-WF-222936	19-E3	Granular Substance
NBFAC.071102.0001.0153	279A-WF-222936	19-E3	Granular Substance
NBFAC.071102.0001.0154	279A-WF-222936	19-E3	Granular Substance
NBFAC.071102.0001.0155	279A-WF-222936	19-E3	Granular Substance
NBFAC.071102.0001.0156	279A-WF-222936	s2	Filter
NBFAC.071102.0001.0157	279A-WF-222936	s3	Filter
NBFAC.071102.0001.0158	279A-WF-222936	s6	Filter
NBFAC.071102.0001.0159	279A-WF-222936	s7	Filter
NBFAC.071102.0001.0160	279A-WF-222936	s-12	Filter
NBFAC.071102.0001.0161	279A-WF-222936	s-13	Filter
NBFAC.071102.0001.0162	279A-WF-222936	s-14	Filter
NBFAC.071102.0001.0163	279A-WF-222936	DS2	Filter
NBFAC.071102.0001.0164	279A-WF-222936	S19	Filter
NBFAC.071102.0001.0165	279A-WF-222936	S22	Filter
NBFAC.071102.0001.0166	279A-WF-222936	V1-S1	Filter
NBFAC.071102.0001.0167	279A-WF-222936	V1-S2	Filter
NBFAC.071102.0001.0168	279A-WF-222936	V1-S3	Filter
NBFAC.071102.0001.0169	279A-WF-222936	V1-S4	Filter

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0170	279A-WF-222936	V2-S1	Filter
NBFAC.071102.0001.0171	279A-WF-222936	V2-S4	Filter
NBFAC.071102.0001.0172	279A-WF-222936	V2-S5	Filter
NBFAC.071102.0001.0173	279A-WF-222936	V3-S1	Filter
NBFAC.071102.0001.0174	279A-WF-222936	V3-S2	Filter
NBFAC.071102.0001.0175	279A-WF-222936	V3-S3	Filter
NBFAC.071102.0001.0176	279A-WF-222936	19.S4	Filter
NBFAC.071102.0001.0177	279A-WF-222936	B504-FE11	Liquid
NBFAC.071102.0001.0178	279A-WF-222936	B504-FE12	Liquid
NBFAC.071102.0001.0179	279A-WF-222936	B504-FE13	Liquid
NBFAC.071102.0001.0180	279A-WF-222936	B504-FE16	Liquid
NBFAC.071102.0001.0181	279A-WF-222936	B504-FE17	Liquid
NBFAC.071102.0001.0182	279A-WF-222936	B504-FE18	Liquid
NBFAC.071102.0001.0183	279A-WF-222936	B504-FE19	Liquid
NBFAC.071102.0001.0184	279A-WF-222936	B504-FE20	Liquid
NBFAC.071102.0001.0185	279A-WF-222936	B504-FE21	Liquid
NBFAC.071102.0001.0186	279A-WF-222936	B504-FE22	Liquid
NBFAC.071102.0001.0187	279A-WF-222936	B504 FE23	Liquid
NBFAC.071102.0001.0188	279A-WF-222936	B504-FE24	Liquid
NBFAC.071102.0001.0189	279A-WF-222936	B504-FE25	Liquid
NBFAC.071102.0001.0190	279A-WF-222936	B504-FE27	Liquid
NBFAC.071102.0001.0191	279A-WF-222936	B504-FE1	Liquid
NBFAC.071102.0001.0192	279A-WF-222936	B504-FE2	Liquid
NBFAC.071102.0001.0193	279A-WF-222936	B504-FE3	Liquid
NBFAC.071102.0001.0194	279A-WF-222936	B504-FE4	Liquid
NBFAC.071102.0001.0195	279A-WF-222936	B504-FE5	Liquid
NBFAC.071102.0001.0196	279A-WF-222936	B504-FE6	Liquid
NBFAC.071102.0001.0197	279A-WF-222936	B504-FE7	Liquid
NBFAC.071102.0001.0198	279A-WF-222936	B504-FE8	Liquid
NBFAC.071102.0001.0199	279A-WF-222936	B504-FE9	Liquid
NBFAC.071102.0001.0200	279A-WF-222936	B504-FE10	Liquid
NBFAC.071102.0001.0201	279A-WF-222936	B504-FE14	Liquid
NBFAC.071102.0001.0202	279A-WF-222936	B504-FE15	Liquid
NBFAC.071102.0001.0203	279A-WF-222936	B504-FE26	Liquid
NBFAC.071102.0001.0204	279A-WF-222936	B504-FE28	Liquid
NBFAC.071102.0001.0205	279A-WF-222936	B504-FE29	Liquid
NBFAC.071102.0001.0206	279A-WF-222936	B504-FE30	Liquid
NBFAC.071102.0001.0207	279A-WF-222936	B504-FE31	Liquid
NBFAC.071102.0001.0208	279A-WF-222936	B504-FE32	Liquid

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0209	279A-WF-222936	B504-FE33	Liquid
NBFAC.071102.0001.0210	279A-WF-222936	B504-FE34	Liquid
NBFAC.071102.0001.0211	279A-WF-222936	B504-FE35	Liquid
NBFAC.071102.0001.0212	279A-WF-222936	B504-FE36	Liquid
NBFAC.071102.0001.0213	279A-WF-222936	B504-FE37	Liquid
NBFAC.071102.0001.0214	279A-WF-222936	B504-FE38	Liquid
NBFAC.071102.0001.0215	279A-WF-222936	B504-FE39	Liquid
NBFAC.071102.0001.0216	279A-WF-222936	B504-FE40	Liquid
NBFAC.071102.0001.0217	279A-WF-222936	B504-FE41	Liquid
NBFAC.071102.0001.0218	279A-WF-222936	B504-FE42	Liquid
NBFAC.071102.0001.0219	279A-WF-222936	B504-FE43	Liquid
NBFAC.071102.0001.0220	279A-WF-222936	B504-FE44	Liquid
NBFAC.071102.0001.0221	279A-WF-222936	B504-FE45	Liquid
NBFAC.071102.0001.0222	279A-WF-222936	B504-FE46	Liquid
NBFAC.071102.0001.0223	279A-WF-222936	B504-FE47	Liquid
NBFAC.071102.0001.0224	279A-WF-222936	B504-FE48	Liquid
NBFAC.071102.0001.0225	279A-WF-222936	B504-FE49	Liquid
NBFAC.071102.0001.0226	279A-WF-222936	B504-FE50	Liquid
NBFAC.071102.0001.0227	279A-WF-222936	B504-FE51	Liquid
NBFAC.071102.0001.0228	279A-WF-222936	B504-FE52	Liquid
NBFAC.071102.0001.0229	279A-WF-222936	B504-FE53	Liquid
NBFAC.071102.0001.0230	279A-WF-222936	B504-FE54	Liquid
NBFAC.071102.0001.0231	279A-WF-222936	B504-FE55	Liquid
NBFAC.071102.0001.0232	279A-WF-222936	B504-FE56	Liquid
NBFAC.071102.0001.0233	279A-WF-222936	B504-FE57	Liquid
NBFAC.071102.0001.0234	279A-WF-222936	B504-FE58	Liquid
NBFAC.071102.0001.0235	279A-WF-222936	B504-FE59	Liquid
NBFAC.071102.0001.0236	279A-WF-222936	B504-FE60	Liquid
NBFAC.071102.0001.0237	279A-WF-222936	B504-FE61	Liquid
NBFAC.071102.0001.0238	279A-WF-222936	B504-FE62	Liquid
NBFAC.071102.0001.0239	279A-WF-222936	B504-FE63	Liquid
NBFAC.071102.0001.0240	279A-WF-222936	B504-FE64	Liquid
NBFAC.071102.0001.0241	279A-WF-222936	B504-FE65	Liquid
NBFAC.071102.0001.0242	279A-WF-222936	B504-FE66	Liquid
NBFAC.071102.0001.0243	279A-WF-222936	B504-FE67	Liquid
NBFAC.071102.0001.0244	279A-WF-222936	B504-FE68	Liquid
NBFAC.071102.0001.0245	279A-WF-222936	B504-FE69	Liquid
NBFAC.071102.0001.0246	279A-WF-222936	N/A - Controls	Copan Swab
NBFAC.071102.0001.0247	279A-WF-222936	N/A - Controls	Sponge/Paddle Swab

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NBFAC SAMPLE ID NO	CUSTOMER CASE NO	CUSTOMER SAMPLE ID NO	SAMPLE TYPE
NBFAC.071102.0001.0248	279A-WF-222936	N/A - Controls	Filter

B. Table 2: Samples in Table 1 listed above were extracted into sterile water (1 ml for Copan swabs; 3 ml for Sponge/Paddle swabs; 5 ml for loose material scraped from filters; 1 ml for granular material) by the NBFAC Sample Processing Department. For liquid samples the lesser of 500 µl or 10% original sample was plated directly by the NBFAC Bacteriology Department. Aliquots (150 µl) of undiluted extracts were made by the NBFAC Bacteriology Department and boiled at 100°C for approximately 45 minutes. The undiluted aliquots listed in Table 2 were sterility tested by plating 10% of the sample followed by incubation under appropriate conditions (boiling repeated if necessary). After confirmation of sterility, the remaining aliquot was sent to the NBFAC Molecular Department between 19 November 2007 and 21 December 2007 for molecular analysis in accordance with # DR276, #DR293 and #DR301; (AOW 62).

Table 2: Sterile extracts prepared by the NBFAC Bacteriology Department and sent to the Molecular Biology Department

NBFAC SAMPLE ID NO	TOTAL VOLUME (~µl)
NBFAC.071102.0001.0001.0001.0001	121.5
NBFAC.071102.0001.0002.0001.0001	135
NBFAC.071102.0001.0003.0001.0001	109.35
NBFAC.071102.0001.0004.0001.0001	109.35
NBFAC.071102.0001.0005.0001.0001	135
NBFAC.071102.0001.0006.0001.0001	135
NBFAC.071102.0001.0007.0001.0002	98.1
NBFAC.071102.0001.0008.0001.0001	135
NBFAC.071102.0001.0009.0001.0001	135
NBFAC.071102.0001.0010.0001.0001	135
NBFAC.071102.0001.0011.0001.0001	135
NBFAC.071102.0001.0012.0001.0001	121.5
NBFAC.071102.0001.0013.0001.0001	135
NBFAC.071102.0001.0014.0001.0001	135
NBFAC.071102.0001.0015.0001.0001	135
NBFAC.071102.0001.0016.0001.0001	135
NBFAC.071102.0001.0017.0001.0001	135
NBFAC.071102.0001.0018.0001.0001	135
NBFAC.071102.0001.0019.0001.0001	135
NBFAC.071102.0001.0020.0001.0001	135
NBFAC.071102.0001.0021.0001.0001	135
NBFAC.071102.0001.0022.0001.0001	121.5
NBFAC.071102.0001.0023.0001.0001	135
NBFAC.071102.0001.0024.0001.0001	135
NBFAC.071102.0001.0025.0001.0001	135
NBFAC.071102.0001.0026.0001.0001	135
NBFAC.071102.0001.0027.0001.0001	135

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NBFAC SAMPLE ID NO	TOTAL VOLUME (~µl)
NBFAC.071102.0001.0028.0001.0001	135
NBFAC.071102.0001.0029.0001.0001	135
NBFAC.071102.0001.0030.0001.0001	135
NBFAC.071102.0001.0031.0001.0001	135
NBFAC.071102.0001.0032.0001.0001	135
NBFAC.071102.0001.0033.0001.0001	135
NBFAC.071102.0001.0034.0001.0001	135
NBFAC.071102.0001.0035.0001.0001	135
NBFAC.071102.0001.0036.0001.0001	135
NBFAC.071102.0001.0037.0001.0001	135
NBFAC.071102.0001.0038.0001.0001	135
NBFAC.071102.0001.0039.0001.0001	135
NBFAC.071102.0001.0040.0001.0001	135
NBFAC.071102.0001.0041.0001.0001	135
NBFAC.071102.0001.0042.0001.0001	135
NBFAC.071102.0001.0043.0001.0001	135
NBFAC.071102.0001.0044.0001.0001	135
NBFAC.071102.0001.0045.0001.0001	135
NBFAC.071102.0001.0046.0001.0001	135
NBFAC.071102.0001.0047.0001.0001	135
NBFAC.071102.0001.0048.0001.0001	135
NBFAC.071102.0001.0049.0001.0001	135
NBFAC.071102.0001.0050.0001.0001	121.5
NBFAC.071102.0001.0051.0001.0001	135
NBFAC.071102.0001.0052.0001.0001	135
NBFAC.071102.0001.0053.0001.0001	135
NBFAC.071102.0001.0054.0001.0001	135
NBFAC.071102.0001.0055.0001.0001	135
NBFAC.071102.0001.0056.0001.0001	135
NBFAC.071102.0001.0057.0001.0001	135
NBFAC.071102.0001.0058.0001.0001	135
NBFAC.071102.0001.0059.0001.0001	135
NBFAC.071102.0001.0060.0001.0001	135
NBFAC.071102.0001.0061.0001.0001	135
NBFAC.071102.0001.0062.0001.0001	135
NBFAC.071102.0001.0063.0001.0001	135
NBFAC.071102.0001.0064.0001.0001	135
NBFAC.071102.0001.0065.0001.0001	135
NBFAC.071102.0001.0066.0001.0001	135
NBFAC.071102.0001.0067.0001.0001	135
NBFAC.071102.0001.0068.0001.0001	135
NBFAC.071102.0001.0069.0001.0001	135

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NBFAC SAMPLE ID NO	TOTAL VOLUME (~µl)
NBFAC.071102.0001.0070.0001.0001	121.5
NBFAC.071102.0001.0071.0001.0001	135
NBFAC.071102.0001.0072.0001.0001	135
NBFAC.071102.0001.0073.0001.0001	135
NBFAC.071102.0001.0074.0001.0001	135
NBFAC.071102.0001.0075.0001.0001	135
NBFAC.071102.0001.0076.0001.0001	135
NBFAC.071102.0001.0077.0001.0001	135
NBFAC.071102.0001.0078.0001.0001	135
NBFAC.071102.0001.0079.0001.0001	135
NBFAC.071102.0001.0080.0001.0001	135
NBFAC.071102.0001.0081.0001.0001	135
NBFAC.071102.0001.0082.0001.0001	135
NBFAC.071102.0001.0083.0001.0001	135
NBFAC.071102.0001.0084.0001.0001	135
NBFAC.071102.0001.0085.0001.0001	135
NBFAC.071102.0001.0086.0001.0001	135
NBFAC.071102.0001.0087.0001.0001	135
NBFAC.071102.0001.0088.0001.0001	135
NBFAC.071102.0001.0089.0001.0001	135
NBFAC.071102.0001.0090.0001.0001	135
NBFAC.071102.0001.0091.0001.0001	135
NBFAC.071102.0001.0092.0001.0001	135
NBFAC.071102.0001.0093.0001.0001	135
NBFAC.071102.0001.0094.0001.0001	135
NBFAC.071102.0001.0095.0001.0001	135
NBFAC.071102.0001.0096.0001.0001	135
NBFAC.071102.0001.0097.0001.0001	135
NBFAC.071102.0001.0098.0001.0001	135
NBFAC.071102.0001.0099.0001.0001	135
NBFAC.071102.0001.0100.0001.0001	135
NBFAC.071102.0001.0101.0001.0001	135
NBFAC.071102.0001.0102.0001.0001	135
NBFAC.071102.0001.0103.0001.0001	135
NBFAC.071102.0001.0104.0001.0001	135
NBFAC.071102.0001.0105.0001.0001	135
NBFAC.071102.0001.0106.0001.0001	135
NBFAC.071102.0001.0107.0001.0001	135
NBFAC.071102.0001.0108.0001.0001	135
NBFAC.071102.0001.0109.0001.0001	135
NBFAC.071102.0001.0110.0001.0001	135
NBFAC.071102.0001.0111.0001.0001	135

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NBFAC.071102.0001.0112.0001.0001	135
NBFAC.071102.0001.0113.0001.0001	135
NBFAC.071102.0001.0114.0001.0001	135
NBFAC.071102.0001.0115.0001.0001	135
NBFAC.071102.0001.0116.0001.0001	135
NBFAC.071102.0001.0117.0001.0001	135
NBFAC.071102.0001.0118.0001.0001	135
NBFAC.071102.0001.0119.0001.0001	135
NBFAC.071102.0001.0120.0001.0001	135
NBFAC.071102.0001.0121.0001.0001	135
NBFAC.071102.0001.0122.0001.0001	135
NBFAC.071102.0001.0123.0001.0001	135
NBFAC.071102.0001.0124.0001.0001	135
NBFAC.071102.0001.0125.0001.0001	135
NBFAC.071102.0001.0126.0001.0001	135
NBFAC.071102.0001.0127.0001.0001	135
NBFAC.071102.0001.0128.0001.0001	135
NBFAC.071102.0001.0129.0001.0001	135
NBFAC.071102.0001.0130.0001.0001	135
NBFAC.071102.0001.0131.0001.0001	135
NBFAC.071102.0001.0132.0001.0001	135
NBFAC.071102.0001.0133.0001.0001	135
NBFAC.071102.0001.0134.0001.0001	135
NBFAC.071102.0001.0135.0001.0001	135
NBFAC.071102.0001.0136.0001.0001	135
NBFAC.071102.0001.0137.0001.0001	135
NBFAC.071102.0001.0138.0001.0001	135
NBFAC.071102.0001.0139.0001.0001	135
NBFAC.071102.0001.0140.0001.0001	135
NBFAC.071102.0001.0141.0001.0001	135
NBFAC.071102.0001.0142.0001.0001	135
NBFAC.071102.0001.0143.0001.0001	135
NBFAC.071102.0001.0144.0001.0001	135
NBFAC.071102.0001.0145.0001.0001	135
NBFAC.071102.0001.0146.0001.0001	135
NBFAC.071102.0001.0147.0001.0001	135
NBFAC.071102.0001.0148.0001.0001	135
NBFAC.071102.0001.0149.0001.0001	121.5
NBFAC.071102.0001.0150.0001.0001	135
NBFAC.071102.0001.0151.0001.0001	135
NBFAC.071102.0001.0152.0001.0001	135
NBFAC.071102.0001.0153.0001.0001	135

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NBFAC SAMPLE ID NO	TOTAL VOLUME (~µl)
NBFAC.071102.0001.0154.0001.0001	135
NBFAC.071102.0001.0155.0001.0001	135
NBFAC.071102.0001.0156.0001.0001	135
NBFAC.071102.0001.0157.0001.0001	135
NBFAC.071102.0001.0158.0001.0001	121.5
NBFAC.071102.0001.0159.0001.0001	121.5
NBFAC.071102.0001.0160.0001.0001	135
NBFAC.071102.0001.0161.0001.0001	135
NBFAC.071102.0001.0162.0001.0001	135
NBFAC.071102.0001.0163.0001.0001	135
NBFAC.071102.0001.0164.0001.0001	135
NBFAC.071102.0001.0165.0001.0001	135
NBFAC.071102.0001.0166.0001.0001	121.5
NBFAC.071102.0001.0167.0001.0001	121.5
NBFAC.071102.0001.0168.0001.0001	121.5
NBFAC.071102.0001.0169.0001.0001	135
NBFAC.071102.0001.0170.0001.0001	135
NBFAC.071102.0001.0171.0001.0001	135
NBFAC.071102.0001.0172.0001.0001	135
NBFAC.071102.0001.0173.0001.0001	135
NBFAC.071102.0001.0174.0001.0001	135
NBFAC.071102.0001.0175.0001.0001	135
NBFAC.071102.0001.0176.0001.0001	135
NBFAC.071102.0001.0246.0001.0001	135
NBFAC.071102.0001.0247.0001.0001	135
NBFAC.071102.0001.0248.0001.0001	135

- C. Table 3: The samples listed in Table 3, consisting of the remaining extracted volume of original items, were serially 10-fold diluted to  $10^{-4}$  and 100µl of neat sample and each dilution was plated on 5% SBA plate and incubated for at least 18 hours at 37°C by the NBFAC Bacteriology Department in accordance with #DR276 and #DR293 (AOW 62).

Table 3: Remaining volume of original extracts diluted and plated.

NBFAC SAMPLE ID NO	SAMPLE TYPE	TOTAL VOLUME (~ml)
NBFAC.071102.0001.0001	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0002	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0003	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0004	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0005	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0006	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0007	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0008	Sponge\Paddle Swab	2.85

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NBFAC SAMPLE ID NO	SAMPLE TYPE	TOTAL VOLUME (~ml)
NBFAC.071102.0001.0009	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0010	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0011	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0012	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0013	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0014	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0015	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0016	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0017	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0018	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0019	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0020	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0021	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0022	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0023	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0024	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0025	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0026	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0027	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0028	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0029	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0030	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0031	Copan Swab	0.85
NBFAC.071102.0001.0032	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0033	Copan Swab	0.85
NBFAC.071102.0001.0034	Copan Swab	0.85
NBFAC.071102.0001.0035	Copan Swab	0.85
NBFAC.071102.0001.0036	Copan Swab	0.85
NBFAC.071102.0001.0037	Copan Swab	0.85
NBFAC.071102.0001.0038	Copan Swab	0.85
NBFAC.071102.0001.0039	Copan Swab	0.85
NBFAC.071102.0001.0040	Copan Swab	0.85
NBFAC.071102.0001.0041	Copan Swab	0.85
NBFAC.071102.0001.0042	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0043	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0044	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0045	Copan Swab	0.85
NBFAC.071102.0001.0046	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0047	Copan Swab	0.85
NBFAC.071102.0001.0048	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0049	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0050	Sponge\Paddle Swab	2.85

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NBFAC SAMPLE ID NO	SAMPLE TYPE	TOTAL VOLUME (~ml)
NBFAC.071102.0001.0051	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0052	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0053	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0054	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0055	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0056	Copan Swab	0.85
NBFAC.071102.0001.0057	Copan Swab	0.85
NBFAC.071102.0001.0058	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0059	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0060	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0061	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0062	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0063	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0064	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0065	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0066	Copan Swab	0.85
NBFAC.071102.0001.0067	Copan Swab	0.85
NBFAC.071102.0001.0068	Copan Swab	0.85
NBFAC.071102.0001.0069	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0070	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0071	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0072	Copan Swab	0.85
NBFAC.071102.0001.0073	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0074	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0075	Copan Swab	0.85
NBFAC.071102.0001.0076	Copan Swab	0.85
NBFAC.071102.0001.0077	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0078	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0079	Copan Swab	0.85
NBFAC.071102.0001.0080	Copan Swab	0.85
NBFAC.071102.0001.0081	Copan Swab	0.85
NBFAC.071102.0001.0082	Copan Swab	0.85
NBFAC.071102.0001.0083	Copan Swab	0.85
NBFAC.071102.0001.0084	Copan Swab	0.85
NBFAC.071102.0001.0085	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0086	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0087	Copan Swab	0.85
NBFAC.071102.0001.0088	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0089	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0090	Copan Swab	0.85
NBFAC.071102.0001.0091	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0092	Sponge\Paddle Swab	2.85

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NBFAC.071102.0001.0093	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0094	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0095	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0096	Copan Swab	0.85
NBFAC.071102.0001.0097	Copan Swab	0.85
NBFAC.071102.0001.0098	Copan Swab	0.85
NBFAC.071102.0001.0099	Copan Swab	0.85
NBFAC.071102.0001.0100	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0101	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0102	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0103	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0104	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0105	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0106	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0107	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0108	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0109	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0110	Copan Swab	0.85
NBFAC.071102.0001.0111	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0112	Copan Swab	0.85
NBFAC.071102.0001.0113	Copan Swab	0.85
NBFAC.071102.0001.0114	Copan Swab	0.85
NBFAC.071102.0001.0115	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0116	Copan Swab	0.85
NBFAC.071102.0001.0117	Copan Swab	0.85
NBFAC.071102.0001.0118	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0119	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0120	Copan Swab	2.85
NBFAC.071102.0001.0121	Copan Swab	2.85
NBFAC.071102.0001.0122	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0123	Copan Swab	2.85
NBFAC.071102.0001.0124	Copan Swab	2.85
NBFAC.071102.0001.0125	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0126	Copan Swab	0.85
NBFAC.071102.0001.0127	Copan Swab	0.85
NBFAC.071102.0001.0128	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0129	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0130	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0131	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0132	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0133	Copan Swab	0.85
NBFAC.071102.0001.0134	Sponge\Paddle Swab	2.85

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NBFAC SAMPLE ID NO	SAMPLE TYPE	TOTAL VOLUME (~ml)
NBFAC.071102.0001.0135	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0136	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0137	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0138	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0139	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0140	Copan Swab	0.85
NBFAC.071102.0001.0141	Copan Swab	0.85
NBFAC.071102.0001.0142	Copan Swab	0.85
NBFAC.071102.0001.0143	Copan Swab	0.85
NBFAC.071102.0001.0144	Copan Swab	0.85
NBFAC.071102.0001.0145	Copan Swab	0.85
NBFAC.071102.0001.0146	Copan Swab	0.85
NBFAC.071102.0001.0147	Copan Swab	0.85
NBFAC.071102.0001.0148	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0149	Granular Substance	0.85
NBFAC.071102.0001.0150	Granular Substance	0.85
NBFAC.071102.0001.0151	Granular Substance	0.85
NBFAC.071102.0001.0152	Granular Substance	0.85
NBFAC.071102.0001.0153	Granular Substance	0.85
NBFAC.071102.0001.0154	Granular Substance	0.85
NBFAC.071102.0001.0155	Granular Substance	0.85
NBFAC.071102.0001.0156	Filter	4.85
NBFAC.071102.0001.0157	Filter	4.85
NBFAC.071102.0001.0158	Filter	4.85
NBFAC.071102.0001.0159	Filter	4.85
NBFAC.071102.0001.0160	Filter	4.85
NBFAC.071102.0001.0161	Filter	4.85
NBFAC.071102.0001.0162	Filter	4.85
NBFAC.071102.0001.0163	Filter	4.85
NBFAC.071102.0001.0164	Filter	4.85
NBFAC.071102.0001.0165	Filter	4.85
NBFAC.071102.0001.0166	Filter	4.85
NBFAC.071102.0001.0167	Filter	4.85
NBFAC.071102.0001.0168	Filter	4.85
NBFAC.071102.0001.0169	Filter	4.85
NBFAC.071102.0001.0170	Filter	4.85
NBFAC.071102.0001.0171	Filter	4.85
NBFAC.071102.0001.0172	Filter	4.85
NBFAC.071102.0001.0173	Filter	4.85
NBFAC.071102.0001.0174	Filter	4.85
NBFAC.071102.0001.0175	Filter	4.85
NBFAC.071102.0001.0176	Filter	4.85

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NBFAC SAMPLE ID NO	SAMPLE TYPE	TOTAL VOLUME (~ml)
NBFAC.071102.0001.0246	Copan Swab	0.85
NBFAC.071102.0001.0247	Sponge\Paddle Swab	2.85
NBFAC.071102.0001.0248	Filter	4.85

- D. Table 4: Suspect *Bacillus subtilis* colonies were isolated from the plate of the lowest dilution of the sample producing well isolated colonies. Colonies were subcultured for purity by the NBFAC Bacteriology Department. Isolated suspect *Bacillus subtilis* colonies from each purity plate were used for nucleic acid extraction by the NBFAC Bacteriology Department in accordance with #DR276 and #DR293; (AOW 62).

Table 4: Samples from which suspect *Bacillus subtilis* colonies were identified after plating.

NBFAC SAMPLE ID NO	NUMBER OF SUSPECT COLONIES	DILUTION
NBFAC.071102.0001.0005.0001	2	10 <sup>-1</sup>
NBFAC.071102.0001.0012.0001	3	10 <sup>0</sup>
NBFAC.071102.0001.0070.0001	2	10 <sup>0</sup>
NBFAC.071102.0001.0119.0001	1	10 <sup>-1</sup>
NBFAC.071102.0001.0158.0001	3	10 <sup>-1</sup>
NBFAC.071102.0001.0160.0001	1	10 <sup>-1</sup>
NBFAC.071102.0001.0163.0001	1	10 <sup>0</sup>
NBFAC.071102.0001.0164.0001	1	10 <sup>-3</sup>
NBFAC.071102.0001.0168.0001	1	10 <sup>0</sup>
NBFAC.071102.0001.0176.0001	1	10 <sup>0</sup>

- E. Table 5: A list of the extracted nucleic acid samples from suspect *Bacillus subtilis* isolates prepared by the NBFAC Bacteriology Department, sterility tested and then sent to the NBFAC Molecular Department on 11 and 17 December 2007 for molecular analysis in accordance with #DR276, #DR293 and #DR301; (AOW 62).

Table 5: Extracted nucleic acid extracted from suspect *Bacillus subtilis*.

NBFAC SAMPLE ID NO	STARTING VOLUME (~µl)	VOLUME PLATED (~µl)	FINAL VOLUME (~µl)
NBFAC.071102.0001.0005.0001.0002	100	10	90
NBFAC.071102.0001.0005.0001.0003	100	10	90
NBFAC.071102.0001.0012.0001.0002	100	10	90
NBFAC.071102.0001.0012.0001.0003	100	10	90
NBFAC.071102.0001.0012.0001.0004	100	10	90
NBFAC.071102.0001.0070.0001.0002	100	10	90

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NBFAC SAMPLE ID NO	STARTING VOLUME (~µl)	VOLUME PLATED (~µl)	FINAL VOLUME(~µl)
NBFAC.071102.0001.0070.0001.0003	100	10	90
NBFAC.071102.0001.0119.0001.0002	100	10	90
NBFAC.071102.0001.0158.0001.0002	100	10	90
NBFAC.071102.0001.0158.0001.0003	100	10	90
NBFAC.071102.0001.0158.0001.0004	100	10	90
NBFAC.071102.0001.0160.0001.0002	100	10	90
NBFAC.071102.0001.0163.0001.0002	100	10	90
NBFAC.071102.0001.0164.0001.0002	100	10	90
NBFAC.071102.0001.0168.0001.0002	100	10	90
NBFAC.071102.0001.0176.0001.0002	100	10	90

- F. Table 6: List of samples containing *Bacillus anthracis* and phenotypic results. One representative colony isolated from the plate of the lowest dilution of the sample producing well isolated suspect *Bacillus anthracis* colonies or isolated directly from plating original liquid cultures was subcultured for purity by the NBFAC Bacteriology Department. Isolated colonies from each purity plate were used for analysis by Gram stain\*\*, Gamma phage sensitivity\*\*, Penicillin disc sensitivity\*\*, and Motility\*\* assays by the NBFAC Bacteriology Department in accordance with #DR 276, #DR293, #DR321 and #DR324; (AOW 62).

Table 6: Phenotypic results for suspect *Bacillus anthracis*.

NBFAC SAMPLE ID NO	GRAM STAIN	GAMMA PHAGE	PENICILLIN DISC	MOTILITY
NBFAC. 071102.0001.0071.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0072.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0074.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0080.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0084.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0113.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0125.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0177.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0178.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0179.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0180.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0181.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0182.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0184.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0185.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0186.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0187.0001	Gram positive rods	Sensitive	Sensitive	Non-motile

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NBFAC SAMPLE ID NO	GRAM STAIN	GAMMA PHAGE	PENICILLIN DISC	MOTILITY
NBFAC. 071102.0001.0188.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0189.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0190.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0191.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0192.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0193.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0194.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0195.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0196.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0197.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0198.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0199.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0200.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0201.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0202.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0203.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0204.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0205.0001	Gram positive rods	Sensitive	Sensitive	Non-motile
NBFAC. 071102.0001.0240.0001	Gram positive rods	Sensitive	Sensitive	Non-motile

G. Table 7: Boiled cell suspensions of *Bacillus anthracis* which showed characteristic phenotypes were prepared by the NBFAC Bacteriology Department. Following sterility testing the first seven samples were sent to the NBFAC Molecular Department for analysis on 3 January 2008 and the remainder are anticipated to be ready on 11 January 2008 pending sterility results in accordance with #DR 276, #DR293, #DR321 and #DR324; (AOW 62).

Table 7: Boiled cell suspensions of suspect *Bacillus anthracis*.

NBFAC SAMPLE ID NO	STARTING VOLUME (~µl)	VOLUME PLATED (~µl)	FINAL VOLUME (~µl)
NBFAC. 071102.0001.0071.0001.0002	1000	100	900
NBFAC. 071102.0001.0072.0001.0002	1000	100	900
NBFAC. 071102.0001.0074.0001.0002	900	90	810
NBFAC. 071102.0001.0080.0001.0002	1000	100	900
NBFAC. 071102.0001.0084.0001.0002	900	90	810
NBFAC. 071102.0001.0113.0001.0002	900	90	810
NBFAC. 071102.0001.0125.0001.0002	810	81	729
NBFAC.071102.0001.00177.0001.0001	1000	100	900
NBFAC. 071102.0001.0178.0001.0001	1000	100	900
NBFAC.071102.0001.0179.0001.0001	1000	100	900
NBFAC. 071102.0001.0180.0001.0001	1000	100	900
NBFAC. 071102.0001.0181.0001.0001	1000	100	900

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NBFAC SAMPLE ID NO	STARTING VOLUME (~µl)	VOLUME PLATED (~µl)	FINAL VOLUME (~µl)
NBFAC. 071102.0001.0182.0001.0001	1000	100	900
NBFAC. 071102.0001.0184.0001.0001	1000	100	900
NBFAC. 071102.0001.0185.0001.0001	1000	100	900
NBFAC. 071102.0001.0186.0001.0001	1000	100	900
NBFAC. 071102.0001.0187.0001.0001	1000	100	900
NBFAC. 071102.0001.0188.0001.0001	1000	100	900
NBFAC. 071102.0001.0189.0001.0001	1000	100	900
NBFAC. 071102.0001.0190.0001.0001	1000	100	900
NBFAC. 071102.0001.0191.0001.0001	1000	100	900
NBFAC. 071102.0001.0192.0001.0001	1000	100	900
NBFAC. 071102.0001.0193.0001.0001	1000	100	900
NBFAC. 071102.0001.0194.0001.0001	1000	100	900
NBFAC. 071102.0001.0195.0001.0001	1000	100	900
NBFAC. 071102.0001.0196.0001.0001	1000	100	900
NBFAC. 071102.0001.0197.0001.0001	1000	100	900
NBFAC. 071102.0001.0198.0001.0001	1000	100	900
NBFAC. 071102.0001.0199.0001.0001	1000	100	900
NBFAC. 071102.0001.0200.0001.0001	1000	100	900
NBFAC. 071102.0001.0201.0001.0001	1000	100	900
NBFAC. 071102.0001.0202.0001.0001	900	90	810
NBFAC. 071102.0001.0203.0001.0001	1000	100	900
NBFAC. 071102.0001.0204.0001.0001	1000	100	900
NBFAC. 071102.0001.0205.0001.0001	1000	100	900
NBFAC. 071102.0001.0240.0001.0001	1000	100	900

H. Table 8: Undiluted extracts (from the original samples) were received by the NBFAC Molecular Biology Department between 17 November 2007 and 19 December 2007. These samples were analyzed by Real Time PCR for inhibition and for the presence of the *Bacillus subtilis* specific *sboA* nucleic acid sequence in accordance with #DR293, #DR301, and #DR321 (AOW62). In samples where partial inhibition was observed, both the original sample (neat) and a 1:10 dilution of the original sample were analyzed for the presence of *sboA*. If complete inhibition was observed, no additional analysis was performed on that sample. Samples that tested positive or inconclusive for *sboA* were subsequently analyzed for the ID65BP For2 (ID65) allelic marker.

Table 8: Results of *Bacillus subtilis* Real Time PCR Assays for undiluted extracts from the original samples.

NBFAC SAMPLE ID NO	INHIBITION RESULTS	sboA SEQUENCE	ID65 SEQUENCE
NBFAC.071102.0001.0001.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0001.0001.0001 (1:10)	None	Negative	Not Tested

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NBFAC SAMPLE ID NO	INHIBITION RESULTS	sboA SEQUENCE	ID65 SEQUENCE
NBFAC.071102.0001.0002.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0002.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0003.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0003.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0004.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0004.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0005.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0005.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0006.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0006.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0007.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0007.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0007.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0008.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0008.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0009.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0009.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0010.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0010.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0011.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0011.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0012.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0012.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0013.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0014.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0014.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0015.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0016.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0016.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0017.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0018.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0018.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0019.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0019.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0020.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0020.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0021.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0022.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0022.0001.0001.0001 (1:10)	None	Negative	Not Tested

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NBFAC.071102.0001.0023.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0024.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0024.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0025.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0025.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0026.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0026.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0026.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0027.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0027.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0028.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0028.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0029.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0030.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0030.0001.0001.0001(1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0031.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0032.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0032.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0032.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0033.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0034.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0035.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0036.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0037.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0038.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0039.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0040.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0041.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0042.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0042.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0043.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0043.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0044.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0044.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0045.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0045.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0046.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0046.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0047.0001.0001 (Neat)	None	Negative	Not Tested

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NBFAC.071102.0001.0048.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0048.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0049.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0049.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0050.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0050.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0051.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0051.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0052.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0052.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0053.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0053.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0054.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0054.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0054.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0055.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0055.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0056.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0057.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0057.0001.0001.0001(1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0058.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0058.0001.0001.0001(1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0059.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0059.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0060.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0061.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0061.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0062.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0062.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0063.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0063.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0064.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0065.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0065.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0066.0001.0001(Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0066.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0067.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0068.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0069.0001.0001 (Neat)	None	Negative	Not Tested

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NBFAC.071102.0001.0070.0001.0001 (Neat)	Partial	Positive	Negative
NBFAC.071102.0001.0070.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0071.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0071.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0072.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0073.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0073.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0074.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0074.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0075.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0076.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0077.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0077.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0078.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0078.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0079.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0080.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0081.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0082.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0083.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0084.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0085.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0085.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0086.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0086.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0087.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0088.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0088.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0088.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0089.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0090.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0091.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0091.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0092.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0092.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0093.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0093.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0094.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0094.0001.0001.0001 (1:10)	None	Negative	Not Tested

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NBFAC.071102.0001.0095.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0095.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0096.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0097.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0098.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0099.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0100.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0100.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0101.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0101.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0102.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0102.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0103.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0103.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0104.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0104.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0105.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0105.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0106.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0106.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0107.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0107.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0108.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0108.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0109.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0109.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0110.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0110.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0111.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0111.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0112.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0113.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0113.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0113.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0114.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0115.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0115.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0116.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0116.0001.0001.0001 (1:10)	None	Negative	Not Tested

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NBFAC SAMPLE ID NO	INHIBITION RESULTS	sboA SEQUENCE	ID65 SEQUENCE
NBFAC.071102.0001.0117.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0118.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0118.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0119.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0119.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0120.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0121.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0121.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0122.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0122.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0123.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0124.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0124.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0125.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0125.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0126.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0127.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0127.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0128.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0128.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0129.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0129.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0130.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0130.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0131.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0132.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0132.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0133.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0134.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0135.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0135.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0136.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0137.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0137.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0137.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0138.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0139.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0140.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0141.0001.0001 (Neat)	None	Negative	Not Tested

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NBFAC SAMPLE ID NO	INHIBITION RESULTS	sboA SEQUENCE	ID65 SEQUENCE
NBFAC.071102.0001.0142.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0143.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0144.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0145.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0146.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0147.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0148.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0148.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0149.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0149.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0149.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0150.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0150.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0150.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0151.0001.0001(Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0151.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0151.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0152.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0152.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0152.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0153.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0153.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0153.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0154.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0154.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0154.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0155.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0155.0001.0001.0001 (1:10)	Partial	Negative	Not Tested
NBFAC.071102.0001.0155.0001.0001.0002 (1:100)	None	Negative	Not Tested
NBFAC.071102.0001.0156.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0156.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0157.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0157.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0158.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0158.0001.0001.0005 (1:1000)	None	Negative	Not Tested
NBFAC.071102.0001.0159.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0160.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0161.0001.0001 (Neat)	None	Negative	Not Tested

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NBFAC SAMPLE ID NO	INHIBITION RESULTS	sboA SEQUENCE	ID65 SEQUENCE
NBFAC.071102.0001.0162.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0163.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0164.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0165.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0166.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0166.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0167.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0167.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0168.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0169.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0169.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0170.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0170.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0171.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0172.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0173.0001.0001 (Neat)	Complete	Not Tested	Not Tested
NBFAC.071102.0001.0173.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0174.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0175.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0175.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0176.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0246.0001.0001 (Neat)	None	Negative	Not Tested
NBFAC.071102.0001.0247.0001.0001 (Neat)	Partial	Negative	Not Tested
NBFAC.071102.0001.0247.0001.0001.0001 (1:10)	None	Negative	Not Tested
NBFAC.071102.0001.0248.0001.0001 (Neat)	None	Negative	Not Tested

I. Table 9: Extracted nucleic acid samples from suspect *Bacillus subtilis* isolates were received by the NBFAC Molecular Biology Department on 11 and 17 December 2007. These samples were analyzed by Real Time PCR for inhibition and for the presence of the *Bacillus subtilis* specific *sboA* nucleic acid sequence in accordance with DR#276, DR#293, DR#301 (AOW 62). No inhibition was detected in any of the samples shown in Table 9. Samples that tested positive for *sboA* were subsequently analyzed for the ID65 allelic marker. Samples positive for *sboA* and ID65 were analyzed for the ID91 and ID107 allelic markers. Analytical results obtained from the NBFAC Molecular Biology Department are summarized in Table 9 below.

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Table 9: Results of *Bacillus subtilis* Real Time PCR Assays for extracted nucleic acid samples.

NBFAC SAMPLE ID NO	sboA SEQUENCE	ID65 SEQUENCE	ID91 SEQUENCE	ID107 SEQUENCE
NBFAC.071102.0001.0005.0001.0002.0001	Positive	Negative	Not Tested	Not Tested
NBFAC.071102.0001.0005.0001.0003.0001	Positive	Negative	Not Tested	Not Tested
NBFAC.071102.0001.0012.0001.0002.0001	Positive	Positive	Positive	Positive
NBFAC.071102.0001.0012.0001.0003.0001	Positive	Negative	Not Tested	Not Tested
NBFAC.071102.0001.0012.0001.0004.0001	Positive	Negative	Not Tested	Not Tested
NBFAC.071102.0001.0070.0001.0002.0001	Positive	Positive	Positive	Negative
NBFAC.071102.0001.0070.0001.0003.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0119.0001.0002.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0158.0001.0002.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0158.0001.0003.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0158.0001.0004.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0160.0001.0002.0001	Positive	Negative	Not Tested	Not Tested
NBFAC.071102.0001.0163.0001.0002.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0164.0001.0002.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0168.0001.0002.0001	Negative	Not Tested	Not Tested	Not Tested
NBFAC.071102.0001.0176.0001.0002.0001	Negative	Not Tested	Not Tested	Not Tested

J. Table 10: A large scale nucleic extraction was performed on a *Bacillus subtilis* isolate positive for all four *Bacillus subtilis* markers by the NBFAC Bacteriology Department on 28 December 2007. The DNA concentration of the extracted sample was determined by Nanodrop according to #DR293 and #DR321; (AOW 62). The sterility tested nucleic acid sample will be stored at NBFAC until further direction by the FBI.

Table 10: Large scale nucleic acid extracted sample

NBFAC SAMPLE ID NO	DNA CONCENTRATION	VOLUME
NBFAC.071102.0001.0012.0001.0005	350.4 µg/ml	3.6 ml

K. Table 11: The boiled suspect *Bacillus anthracis* samples listed in Table 11 below prepared by the NBFAC Bacteriology Department were received by the NBFAC Molecular Biology Department on 03 January 2008. These samples were analyzed by Real Time PCR for inhibition and for the presence of the *Bacillus anthracis* specific *saspB* genetic marker in accordance with #DR276, #DR293, #DR301, and #DR323; (AOW 62). No inhibition was detected in any samples. All samples in which the *saspB* genetic marker was detected were subsequently analyzed for the *pag* and *capA* genetic markers. Analytical results obtained from the NBFAC Molecular Biology Department are summarized in Table 11 below.

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Table 11: Results of *Bacillus anthracis* Real Time PCR Assays on boiled suspect *Bacillus anthracis* samples.

NBFAC SAMPLE ID NO	saspB SEQUENCE	PAG SEQUENCE	CapA SEQUENCE
NBFAC.071102.0001.0071.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected
NBFAC.071102.0001.0072.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected
NBFAC.071102.0001.0074.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected
NBFAC.071102.0001.0080.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected
NBFAC.071102.0001.0084.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected
NBFAC.071102.0001.0113.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected
NBFAC.071102.0001.0125.0001.0002	Sequence Detected	Sequence Detected	Sequence Detected

### Summary and Interpretation of Results

Of the original two hundred forty eight (248) items received, suspect *Bacillus subtilis* colonies were identified by the NBFAC Bacteriology Department in ten (10) items. Of the one hundred and seventy nine (179) boiled undiluted extracts prepared by the NBFAC Bacteriology Department and submitted to the Molecular Biology Department for analysis using Real Time PCR, one (1) of the undiluted extracts contained nucleic acid sequences consistent with the *Bacillus subtilis* genetic marker *sboA*. This undiluted sample did not contain nucleic acid sequence consistent with ID65. No further testing was performed on the remaining undiluted samples.

From the ten (10) items identified as containing suspect *Bacillus subtilis*, the NBFAC Bacteriology Department prepared nucleic acid extracts from sixteen (16) suspect *Bacillus subtilis* colonies and submitted the nucleic acid samples to the Molecular Biology Department for analysis using Real Time PCR. Seven (7) of these extracted nucleic acid samples, derived from four (4) original items, contained nucleic acid sequences consistent with the *Bacillus subtilis* genetic marker *sboA*. Of these seven (7) *sboA* positive samples, two (2) were also positive for ID65. One of these *sboA* and ID65 positive isolates contained nucleic acid sequences consistent with ID91, but was negative for ID107. No further testing was performed on this isolate, which was derived from the one original item that contained nucleic acid sequences consistent with *sboA*. One (1) *Bacillus subtilis* isolate identified from sample NBFAC.071102.0001.0012 was positive for the four *Bacillus subtilis* genetic markers, *sboA*, ID65, ID91 and ID107.

To facilitate additional analyses, a large scale nucleic acid extraction was performed by the NBFAC Bacteriology Department on the *Bacillus subtilis* isolate (NBFAC.071102.0001.0012.0001.0002) positive for the four genetic markers. The nucleic acid sample is pending further analysis based on direction from the FBI.

Suspect *Bacillus anthracis* colonies were identified by the NFAC Bacteriology Department in thirty six (36) of the original items received. Bacteriological tests confirmed the identification of these colonies as *Bacillus anthracis*. The Bacteriology Department prepared boiled cell suspensions of seven (7) *Bacillus anthracis* isolates and submitted them to the NBFAC Molecular Biology Department for molecular analysis using Real Time PCR. All seven (7) samples contained nucleic acid sequences consistent with *saspB*, *pag* and *capA*. Thus, all seven (7) samples contained virulent *Bacillus anthracis*. The remaining 29 *Bacillus anthracis* samples are pending sterility results and molecular analyses. These analyses will be completed during the week of 14 January 08.

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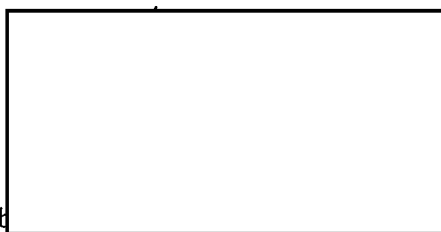
Approved by



Director  
NBFAC  
08 January 2008

b6  
b7c

Reviewed by



Bacteriology Manager  
NBFAC  
08 January 2008

Reviewed by:



Molecular Biology Manager  
NBFAC  
08 January 2008

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**Report of NBFAC.071102.0001  
Addendum to Report DR318**

15 January 2008

To: Unit Chief  
FBI Laboratory-CBSU  
2501 Investigation Pkwy  
FBI Laboratory, Room 3110  
Quantico, VA 22135

FBI Case No.: 279A-WF-222936  
NBFAC Case No.: NBFAC.071102.0001  
FBI Laboratory No.: N/A

The interim report for case NBFAC.071102.0001 (#DR318), provided on 8 January 2008, included analytical results for the detection of *Bacillus subtilis* and *Bacillus anthracis* in samples from case NBFAC.071102.0001 using approved analytical plan #DR276, the associated addendums #DR293, #DR301, #DR321, and the memorandum #DR324; (AOW 62).

This addendum includes the molecular analysis of the final 29 samples of *Bacillus anthracis* which were not yet complete when the interim report was provided at the request of the FBI.

A. Table 1: Boiled cell suspensions of *Bacillus anthracis* isolates that were confirmed by the NBFAC Bacteriology Department were prepared and sterility tested by the NBFAC Bacteriology Department and sent to the Molecular Biology Department on 11 January 2008 in accordance with #DR276, #DR293, #DR321 and #DR324; (AOW 62).

Table 1: Boiled cell suspensions of *Bacillus anthracis*.

NBFAC SAMPLE ID NO	STARTING VOLUME (~µl)	VOLUME PLATED (~µl)	FINAL VOLUME (~µl)
NBFAC.071102.0001.0177.0001.0001	1000	100	900
NBFAC. 071102.0001.0178.0001.0001	1000	100	900
NBFAC.071102.0001.0179.0001.0001	1000	100	900
NBFAC. 071102.0001.0180.0001.0001	1000	100	900
NBFAC. 071102.0001.0181.0001.0001	1000	100	900
NBFAC. 071102.0001.0182.0001.0001	1000	100	900
NBFAC. 071102.0001.0184.0001.0001	1000	100	900
NBFAC. 071102.0001.0185.0001.0001	1000	100	900
NBFAC. 071102.0001.0186.0001.0001	1000	100	900
NBFAC. 071102.0001.0187.0001.0001	1000	100	900
NBFAC. 071102.0001.0188.0001.0001	1000	100	900

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NBFAC SAMPLE ID NO	STARTING VOLUME (~µl)	VOLUME PLATED (~µl)	FINAL VOLUME (~µl)
NBFAC.071102.0001.0189.0001.0001	1000	100	900
NBFAC.071102.0001.0190.0001.0001	1000	100	900
NBFAC.071102.0001.0191.0001.0001	1000	100	900
NBFAC.071102.0001.0192.0001.0001	1000	100	900
NBFAC.071102.0001.0193.0001.0001	1000	100	900
NBFAC.071102.0001.0194.0001.0001	1000	100	900
NBFAC.071102.0001.0195.0001.0001	1000	100	900
NBFAC.071102.0001.0196.0001.0001	1000	100	900
NBFAC.071102.0001.0197.0001.0001	1000	100	900
NBFAC.071102.0001.0198.0001.0001	1000	100	900
NBFAC.071102.0001.0199.0001.0001	1000	100	900
NBFAC.071102.0001.0200.0001.0001	1000	100	900
NBFAC.071102.0001.0201.0001.0001	1000	100	900
NBFAC.071102.0001.0202.0001.0001	900	90	810
NBFAC.071102.0001.0203.0001.0001	1000	100	900
NBFAC.071102.0001.0204.0001.0001	1000	100	900
NBFAC.071102.0001.0205.0001.0001	1000	100	900
NBFAC.071102.0001.0240.0001.0001	1000	100	900

B. Table 2: The boiled *Bacillus anthracis* samples listed in Table 2 below were received by the NBFAC Molecular Biology Department on 11 January 2008. These samples were analyzed by Real Time PCR for inhibition and for the presence of the *Bacillus anthracis* specific *saspB* genetic marker in accordance with #DR276, #DR293, #DR301, and #DR323; (AOW 62). No inhibition was detected in any samples. All samples in which the *saspB* genetic marker was detected were subsequently analyzed for the *pag* and *capA* genetic markers. Analytical results obtained from the NBFAC Molecular Biology Department are summarized in Table 2 below.

Table 2: Results of *Bacillus anthracis* Real Time PCR Assays on boiled *Bacillus anthracis* samples.

NBFAC SAMPLE ID NO	<i>saspB</i> SEQUENCE	<i>pag</i> SEQUENCE	<i>capA</i> SEQUENCE
NBFAC.071102.0001.0177.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC.071102.0001.0178.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC.071102.0001.0179.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC.071102.0001.0180.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC.071102.0001.0181.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC.071102.0001.0182.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC.071102.0001.0184.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC.071102.0001.0185.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC.071102.0001.0186.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC.071102.0001.0187.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC.071102.0001.0188.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected

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NBFAC SAMPLE ID NO	saspB SEQUENCE	pag SEQUENCE	capA SEQUENCE
NBFAC. 071102.0001.0189.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0190.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0191.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0192.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0193.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0194.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0195.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0196.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0197.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0198.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0199.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0200.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0201.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0202.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected
NBFAC. 071102.0001.0203.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0204.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0205.0001.0001	Sequence Detected	Sequence Detected	Sequence Not Detected
NBFAC. 071102.0001.0240.0001.0001	Sequence Detected	Sequence Not Detected	Sequence Not Detected

### Summary and Interpretation of Results

*Bacillus anthracis* colonies were identified and confirmed by the NFAC Bacteriology Department in thirty six (36) of the original items received. The Bacteriology Department prepared boiled cell suspensions of thirty-six (36) *Bacillus anthracis* isolates and submitted them to the NBFAC Molecular Biology Department for molecular analysis using Real Time PCR. Seven (7) samples contained nucleic acid sequences consistent with *saspB*, *pag* and *capA* genetic markers and results from these seven samples were reported in interim report #DR318. From the analysis of the 29 samples described in this report, fourteen (14) samples contained nucleic acid sequences consistent with both *saspB* and *pag* genetic markers, and fifteen contained nucleic acid sequences consistent only with the *saspB* genetic marker.

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Director  
NBFAC  
15 January 2008

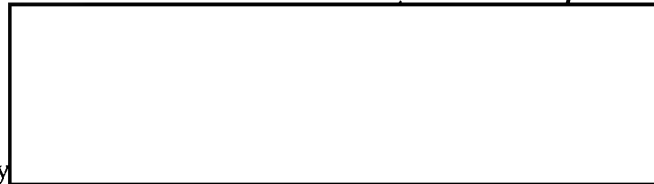
b6  
b7C

Reviewed by



Bacteriology Manager  
NBFAC  
15 January 2008

Reviewed by



Molecular Biology Manager  
NBFAC  
15 January 2008

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National Bioforensic Analysis Center  
110 Thomas Johnson Drive, Suite 200  
Frederick, MD 21702



**Addendum to Report DR318 for Case:  
NBFAC.071102.0001; FBI Case # 279A-WF-222936**

25 April 2008

To: Unit Chief  
FBI Laboratory-CBSU  
2501 Investigation Pkwy  
FBI Laboratory, Room 3110  
Quantico, VA 22135

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED  
DATE 01-08-2009 BY 65179 dmh /baw

FBI Case No.: 279A-WF-222936  
NBFAC Case No.: NBFAC.071102.0001  
FBI Laboratory No.: N/A

Analytical results for the preparation and shipment of high molecular weight DNA from a sample from case NBFAC.071102.0001 using approved analytical plan AOW 62.

An interim report for case NBFAC.071102.0001 (#DR318) was provided to the FBI on 08 January 2008 with an addendum to the report (#DR338) provided on 15 January 2008, which included analytical results for the detection of *Bacillus subtilis* and *Bacillus anthracis* in samples from case NBFAC.071102.0001 using the analytical plan and associated addenda from AOW62 (DR276, DR293, DR301, DR321, and DR324).

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This report describes the preparation and shipment of a fresh nucleic acid sample from the *Bacillus subtilis* isolated and identified in original item NBFAC.071102.0001.0012 at the customer's request according to approved analytical plan addendum #DR374 (AOW62). While the original analytical plan addendum #DR374 indicated that an aliquot of the original nucleic acid be sent along with a freshly prepared sample, an email from [redacted] dated 23 April 2008 stated that there is no need to send an additional 10 ug aliquot of the original nucleic acid extraction as originally requested because the original sample was demonstrated to be degraded.

A. Table 1: Nucleic acid extraction from the *B. subtilis* isolate was performed by the NBFAC Bacteriology Department on 01 April 2008 in accordance with AOW 62 analytical plan DR#276 and associated addenda DR#293 and DR#374. The resulting nucleic acid sample was filtered through a 0.22 µm filter, then sterility tested by plating 10% of the sample followed by incubation under appropriate conditions. Following confirmation of sterility, the remaining sample (138 µl) was sent to the NBFAC Molecular Department on 07 April 2008.

Table 1: Nucleic acid sample extracted by the NBFAC Bacteriology Department

NBFAC SAMPLE ID NO	VOLUME
NBFAC.071102.0001.0012.0001.0006.0006	138 µl

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\* The indicated test method(s) are included in scope of the NBFAC ISO 17025:2005 A2LA accreditation.

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40-046.F01 DR444

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NBFAC Case No.: NBFAC.071102.0001

FBI Laboratory No.: N/A

- B. The concentration of the nucleic acid sample was determined by Nanodrop and analyzed by agarose gel electrophoresis (Fig. 1).

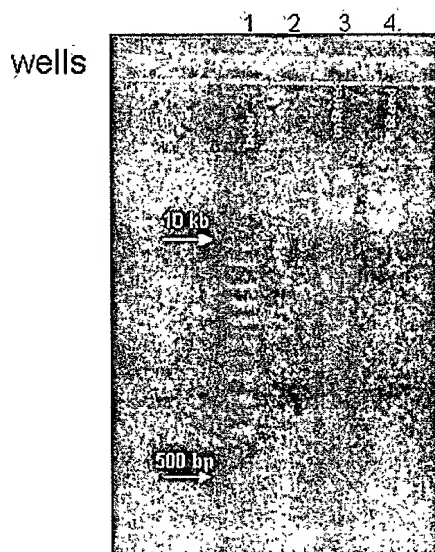


Figure 1. 0.8% agarose gel of nucleic acid from NBFAC.071102.0001.0012.0001.0006.0006.

Lane 1. Sigma ladder (D3937), Lane 2. empty, Lane 3. ~665 ng of unfiltered nucleic acid, Lane 4. ~450 ng of filter sterilized nucleic acid.

- C. Table 2: An aliquot of the nucleic acid was sent to [redacted] at the University of Maryland, 20 Penn Street, Baltimore, MD 21201 on 08 April 2008.

Table 2: Sample sent to Jacques Ravel

NBFAC SAMPLE ID NO	DNA CONCENTRATION	VOLUME
NBFAC.071102.0001.0012.0001.0006.0007	131ng/μl	77 μl

Results of Analysis:

A. Analytical results obtained from the NBFAC Bacteriology and Molecular Biology Departments using quantitation by Nanodrop and agarose electrophoresis indicate the nucleic acid sample NBFAC.071102.0001.0012.0001.0006.0006 contains high molecular weight nucleic acid at a concentration of approximately 131 ng/μl. An aliquot of the nucleic acid sample was transferred to [redacted] at the University of Maryland on 08 April 2008.

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Interpretation of Result

The integrity of the original nucleic acid sample NBFAC.071102.0001.0012.0001.0005.0001 (sent to [redacted] on 14 Jan 2008) was in question. As a result, an aliquot of the original sample was run on an agarose gel and the nucleic acid was confirmed to be degraded. This was subsequently demonstrated to be caused by the boiling procedure used to ensure the

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sample was sterile prior to removal from the NBFAC BSL-3 biocontainment suite. The new nucleic acid sample, NBFAC.071102.0001.0012.0001.0006.0006, prepared on 01 April 2008, was filter sterilized using a 0.22  $\mu$ m filter, to preserve the integrity of the high molecular weight nucleic acid. An aliquot of the sterility tested sample was transferred to [redacted] on 08 April 2008.

Approved by:

[redacted]  
Director  
NBFAC  
25 April 2008

Reviewed by:

[redacted]  
Molecular Biology Manager  
NBFAC  
25 April 2008

Reviewed by:

[redacted]  
Bacteriology Manager  
NBFAC  
25 April 2008

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*\* The indicated test method(s) are included in scope of the NBFAC ISO 17025:2005 A2LA accreditation.*

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40-046.F01 DR444

## FEDERAL BUREAU OF INVESTIGATION

Precedence: ROUTINE

Date: 06/26/2008

To: Washington Field

From: Washington Field

Amerithrax-2/NVRA/WFO

Contact: [REDACTED]

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Approved By: [REDACTED]

Drafted By: [REDACTED]

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Case ID #: 279A-WF-222936-SCI18 (Pending)

DATE 01-08-2009 BY 65179 dmh /baw

Title: AMERITHRAX  
MAJOR CASE 184

Synopsis: To provide a summary of investigation of the  
*Bacillus anthracis* (Ba) spore collection known as RMR-1029.

Reference: 279A-WF-222936-302 Serials 3605  
279A-WF-222936-302 Serials 4832  
279A-WF-222936-302 Serials 4876  
279A-WF-222936-BATTELLE Serial 91  
279A-WF-222936-USAMRIID Serials 785  
279A-WF-222936-USAMRIID Serials 795  
279A-WF-222936-USAMRIID Serials 847  
279A-WF-222936-USAMRIID Serials 1456  
279A-WF-222936-USAMRIID Serials 1472  
279A-WF-222936-USAMRIID Serials 1489  
279A-WF-222936-USAMRIID Serials 1525  
279A-WF-222936-USAMRIID Serials 1728  
279A-WF-222936-SCI18 Serials 3  
279A-WF-222936-SCI18 Serials 7  
279A-WF-222936-SCI18 Serials 11  
279A-WF-222936-BEI Serials 27  
279A-WF-222936-BEI Serials 37  
279A-WF-222936-BEI Serials 53  
279A-WF-222936-BEI Serials 56  
279A-WF-222936-BEI Serials 147

Enclosure(s): Three-page diagram documenting the spore  
production batches that contributed to RMR-1029. Two-page  
spreadsheet detailing dates, quantities, and individuals who  
received transfers of material from RMR-1029.

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Re: 279A-WF-222936-SCI18, 06/26/2008

**Details:** RMR-1029 was a large *Ba* Ames spore batch produced to conduct numerous anthrax aerosol challenges. Upon its assembly, the concentration of RMR-1029 was approximately  $3.6 \times 10^{10}$  colony forming units/milliliter (CFU/ml), consisting of one liter in total volume, split between two one liter flasks (0.5 liter each). On 07/09/2001 the first flask of RMR-1029 would have been exhausted. In order to produce the quantity of spores necessary to make RMR-1029, Dugway Proving Ground was contracted to produce *Ba* Ames spores, which were combined with spores produced in-house by Bruce Ivins at USAMRIID (see attached diagram). RMR-1029 consisted of a combination of 34 spore production dates; 22 production dates at USAMRIID and 12 production dates at Dugway, totaling approximately  $3.6 \times 10^{13}$  total spores, approximately 85% of which were produced at Dugway. RMR-1029 was identified as the closest genetic match to the evidentiary *Ba* from the 2001 anthrax mailings. Due to the quantity of spores comprising RMR-1029, and the similarity of this material to the evidentiary powders, an in depth investigation was conducted over several years, in order to identify how, where and when this spore material arose (genealogy), where this material was maintained, how this material was used, and who received/possessed this material prior to the 2001 anthrax attacks.

On October 22, 1997, RMR-1029 was compiled, the viable spore count was  $3.6 \times 10^{10}$  CFU/ml, 1000ml total volume. On September 17, 1998 Bruce Ivins refers to the use of RMR-1029 for an aerosol challenge, stating the concentration was approximately  $3.0 \times 10^{10}$  CFU/ml. On March 16, 1999 Bruce Ivins determined the viability of the spores in RMR-1029 to be  $2.3 - 2.4 \times 10^{10}$  CFU/ml. On April 27, 1999 [redacted] refers to RMR-1029 for use in an animal challenge stating the material's concentration was  $2.5 \times 10^{10}$  CFU/ml. On February 17, 2000, Ivins refers to the use of RMR-1029 in a temperature sensitivity study, stating the concentration of the material to be  $4.3 \times 10^{10}$  CFU/ml.

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[redacted]  
were subpoenaed from the United States Army Medical Research Institute of Infectious Diseases (USAMRIID). [redacted]  
[redacted]

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Scientific investigators from USAMRIID who were identified as having received RMR-1029 were interviewed as to

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the use of the spore material and it's final disposition. All FD-302 documenting these interviews were also compiled.

All USAMRIID 11-R Shipment Request Forms documenting transfer of RMR-1029 were compiled and individuals having received shipments of RMR-1029 at facilities outside of USAMRIID were interviewed as to the use of the spore material and it's final disposition. All FD-302's documenting these interviews were also compiled.

All uses of this material for aerosol challenges were identified and documented (documentation compiled).

Digital searches of USAMRIID back-up tapes available on the [ ] system and e-mail communications available on IntelPlus were searched and did not identify any previously unknown uses of RMR-1029. The search terms utilized in these searches were: "RMR-1029," "RMR1029," "RMR 1029," "GLP Ames spores," "GLP Ames," "Dugway Ames spores," and "Dugway Ames."

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Usage of RMR-1029 has been sought out through thorough searches of scientific notebooks using common terms for the spore materials, such as "RMR-1029," "RMR1029," "RMR 1029," "GLP Ames spores," "GLP Ames," "Dugway Ames spores," and "Dugway Ames," as well as through use of the aforementioned specific concentrations of this spore material as determined during specific time periods.

A review of the laboratory notebooks, interviews, and other documentation identified 13 uses of RMR-1029, prior to the mailings, that were not recorded on the inventory maintained by Ivins. The RMR-1029 inventory lists 18 uses of RMR-1029 prior to the first mailings (see attached spreadsheet).

According to the RMR-1029 inventory, the quantity of RMR-1029 used from its inception through 11/18/2003 equals 879.9 ml, leaving 120.1 ml remaining. The flask of RMR-1029 was seized on 04/07/2004 and had approximately 75 ml of material. Of the 13 additional uses of RMR-1029 identified by the notebook review, seven uses had specific amounts associated equaling 9.58 ml. Taking the above uses of RMR-1029 into account and the amount of RMR-1029 remaining when it was seized, there is 35.52 ml of RMR-1029 unaccounted for. Given that there was approximately five months between the last identified use of RMR-1029 and the time it was seized and there are six uses of RMR-1029 which have no specified quantity used, the final disposition of this 35.52 ml of RMR-1029 cannot be determined. When questioned on 09/08/2004

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about a discrepancy in volume Ivins stated that because RMR-1029 was not stored in an air tight container evaporation over the years could possibly account for a missing volume.

Of the six remaining uses of RMR-1029 which no specific quantity of RMR-1029 identified, only two were used by individuals other than Ivins' laboratory. Both individuals, [redacted] and [redacted] were interviewed and the quantity they received was undetermined.

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On 02/22/2000, Ivins removes 6 ml spores from the flask, however, on the inventory log Ivins makes a mathematical error which indicates 106 ml of spores were removed. If this error were taken into account then only 20.1 ml of material would remain on 11/18/2003, which is impossible considering that approximately 75 ml were seized on 04/07/2004.

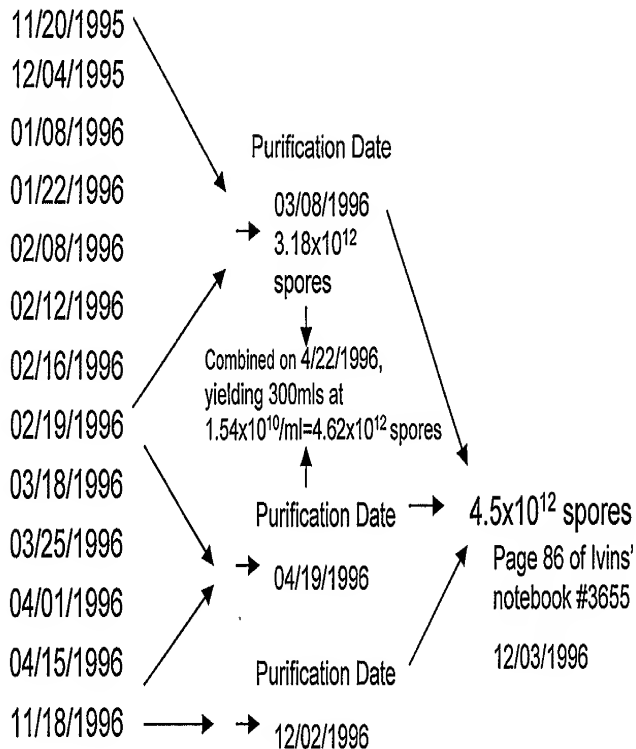
All references to this material have been documented and compiled, the compilation folder is a collection of FD-302's, electronic communications, Form 11R's, laboratory notebooks, material record log sheets, aerosol challenge documentation, and e-mail messages. This folder/notebook, which contains the aforementioned information will be added as a 1A to the FD-340 section of the file, serial 7825.

♦♦

07/12/2006

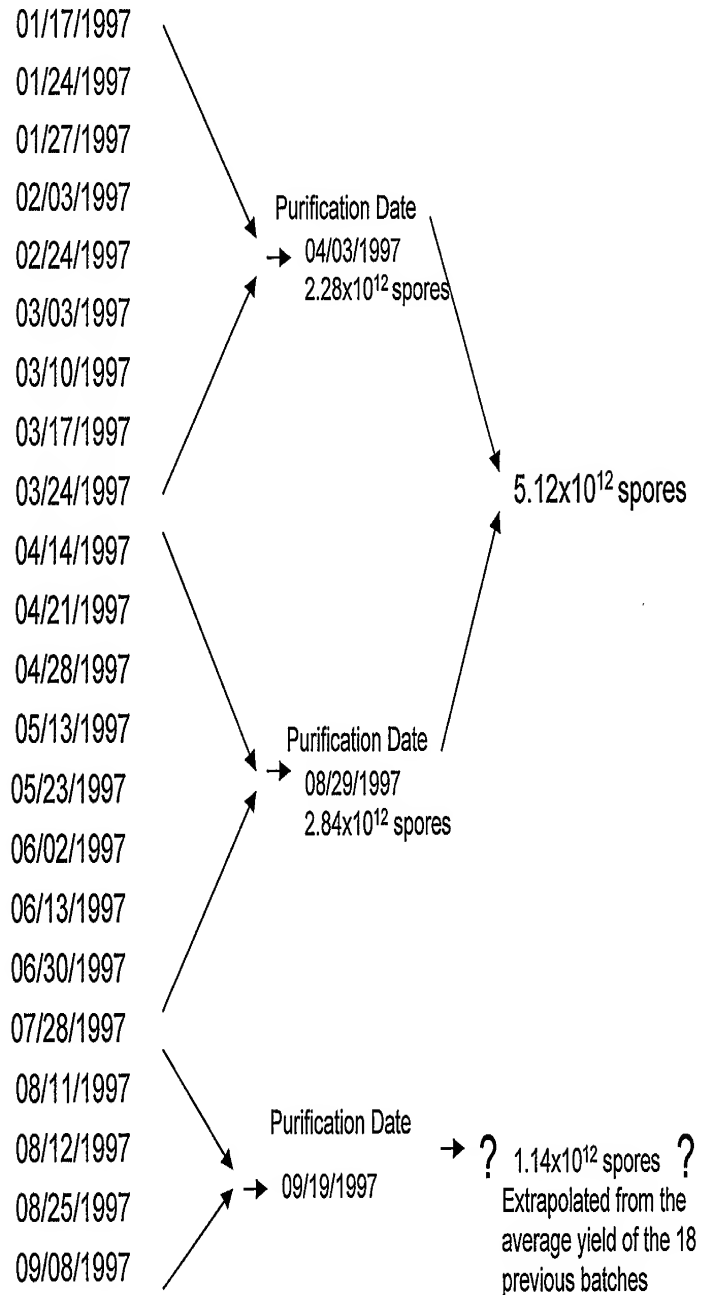
## RMR 1030

### 13 Production Dates



## RMR 1029 (includes 22 production dates from USAMRIID and 12 from Dugway)

### 22 Production Dates



USAMRIID Anthracis Production of  
RMR 1030 and 1029

↓ + USAMRIID batches were combined with Dugway  
batches resulting in a total of 3.6x10<sup>13</sup> spores

## Dugway's 7<sup>th</sup> Lot

Shipped on 09/24/1997 → 12.68x10<sup>12</sup> spores ← \*09/09/1997\*  
According to QA/QC volumes and concentrates \*09/15/1997\* → Received on 09/25/1997 → Purification Date 10/01/1997 → Not added to RMR 1029

\*Positive for *Bacillus globigii* colonies during dilutions \*

### Additional Dugway Production

#### Dates:

4/18/1997 → *Bacillus globigii* contamination noted, production aborted and autoclaved

6/23/1997 → *Bacillus globigii* contamination noted, production aborted and autoclaved

7/01/1997 → *Bacillus globigii* contamination noted, production aborted and autoclaved

7/29/1997 → *Bacillus globigii* contamination noted, production aborted and autoclaved



Log Date	Quantity (mL)	Recipient	Comment	References
03/17/98	unknown	Bruce Ivins	Microscopic examinations/encapsulation study	See notebook 4010 pages 73-78 (Ivins' notebook)
03/20/98	3		Spores irradiated for endotoxin/phenol analysis	See notebook 4010 page 79 (Ivins' notebook)
09/17/98	1		Aerisolation study	See notebook 4000 page 48 (Ivins' notebook). This is confirmed by a spore preparation form obtained from search of house (Item 3)
03/16/99	1	Bruce Ivins	On 3/16/1999 Bruce determined the CFU of RMR-1029 to be $2.3 \times 10^{10}/\text{ml}$ .	See notebook 4010 page 91 (Ivins' notebook), see also notebook 3745 page 61, 63-71 (Ivins' notebook)
03/23/99	1	Ivins	B97-05, sub-cutaneous injection	See [redacted] Ivins notebook 3945, page 65 (Ivins' [redacted] notebook)
03/24/99	unknown		Washed spores-- $2.3 \times 10^{10}/\text{ml}$ --> $2 \times 10^8/\text{ml}$	See FD-302 sub-USAMRIID #1489
04/27/99	unknown	Ivins	Sub-cutaneous injection	See notebook 3945, page 69 (Ivins' [redacted] notebook)
05/05/99	2		Projected aerisolation study--postponed to 9/14/99	See page 62, notebook 4000 (Ivins' notebook) [redacted] had the 'spore preparation form' from Ivins showing the conc of the RMR1029 spores provided to aerobiology was $\sim 4.4 \times 10^7$ . Ivins notebook page 62 lists the conc of spores provided to [redacted] as being $4.4 \times 10^7$ , suggesting that the spores provided on 9/14/99 were the same spores he prepared on 5/3/99.
5/6/1999 and 5/10/99	0.75 ml	Ivins	Vegetative challenge experiments	See notebook 3745 pages 64, 65, 66, and 68 (Ivins' notebook) also contained in 1AGJ 1100
05/11/99	1	Ivins	Sub-cutaneous injection	See notebook 3945 page 71-73 (Ivins' [redacted] notebook)
05/19/99	unknown	Ivins	Sub-cutaneous injection	See notebook 3945 page 75 (Ivins' [redacted] notebook)
08/19/99	unknown	Bruce Ivins	B97-03, sub-cutaneous injection	See Ivins notebook 3745 page 68 (Ivins' notebook)
09/14/99	1ml		D99-02 aerosol challenge	Collected Item 1A #7487, Insert sub-BEI #147
10/15/99	0.63ml		Aerisolation study	FD-302 sub-USAMRIID #1472 dated, 1/24/06 and EC sub-USAMRIID #1456, dated 01/11/2006
02/17/00	0.1 ml	Ivins	Temperature sensitivity study	See notebook 4237 page 9 (Ivins' notebook) also contained in 1AGJ 1100
02/22/00	6		Covance (Irradiated)	See Ivins notebook 4000, page 83, 86 (Ivins' notebook)
03/20/00	0.1 ml	Ivins	B97-03, sub-cutaneous injection	See notebook 4237 page 9 (Ivins' notebook) also contained in 1AGJ 1100
03/22/00	8		Covance	See notebook 4000, mentioned on page 87 (Ivins' notebook)
04/03/00	75		B00-003 Part 1	See notebook 4000 page 89 and EC sub-USAMRIID #1456, dated 01/11/2006
06/29/00	1		anthracis death using fixative/Gm killing	See notebook [redacted] page 3-5 [redacted] notebook)
07/05/00	unknown		Preparations IM5 and IM6 prepared from single colony picks.	See notebook [redacted] page 3 [redacted] notebook)
07/07/00	40		B00-003 Part 2	See EC sub-USAMRIID #1456, dated 01/11/2006

08/28/00	40		For [redacted] mass spec project with [redacted]	See FD-302 sub-302 #3605, dated 4/15/2003
12/04/00	100		F00-11 Bioport	See EC sub-USAMRIID #1456, dated 01/11/2006
				USAMRIID Form 11r indicates that the sample was 1029, shipped on 3/7/01 but the conc. listed was $3 \times 10^9$ /ml, and tested at $7 \times 10^8$ /ml by [redacted] Ivins added this on 4/9/04, going over the 11r forms he likely realized the omission from the log and added it. The concs., omission from the log, and neg. genetic assays indicate that the sample if actually RMR-1029, was diluted before shipping. See notebook 4000 page 42.
03/07/01	0.5		University of New Mexico. Samples submitted to the repository were negative for A1, A3, and D.	
04/06/01	60		[redacted] Part 3	See EC sub-USAMRIID #1456, dated 01/11/2006
05/01/01	90		[redacted]	Form 11r indicates <b>50 ml</b> of spores ( $3.9 \times 10^{10}$ /ml) were sent!
06/15/01	50		[redacted]	Form 11r indicates <b>30 ml</b> of spores ( $3.9 \times 10^{10}$ /ml) were sent!
06/25/01	4		BALB/C mouse aerosol LD50	[redacted] GPO Record notebook (including experiments from 5/11/2000-01/30/2002)
07/09/01	50	Ivins	B00-003 Part 4	See EC sub-USAMRIID #1456, dated 01/11/2006
08/27/01	5			See EC sub-USAMRIID #785, dated 05/11/2004
10/04/01	10		Aerisolization study	See EC sub-USAMRIID #795 and sub-MAIN 6263
Entries appearing in black were found in Bruce Ivins' original RMR1029 Log sheet, entries in red were found and added by AMX investigators.				

# RMR 1029

## 12 Production Dates

Shipped on 04/23/1997	→	15.80x10 <sup>12</sup> spores	←	<b>04/12/1997</b>	↘	Received on 04/24/1997	→	Purification Date 04/28/1997	→	3.9x10 <sup>12</sup> (75.32% purification loss)
				<b>04/14/1997</b>	↗					(First two lots described as contaminated)
Shipped on 06/24/1997	→	19.30x10 <sup>12</sup> spores	←	<b>04/22/1997</b>	↘	Received on 06/25/1997	→	Purification Date 07/14/1997	→	6.5x10 <sup>12</sup> (66.32% purification loss)
				<b>04/25/1997</b>	↗					
				05/19/1997	↗					
Shipped on 07/09/1997	→	12.57x10 <sup>12</sup> spores	←	<b>05/22/1997</b>	↘	Received on 07/10/1997	→	Purification Date 07/23/1997	→	8.53x10 <sup>12</sup> (32.14% purification loss)
				*06/28/1997*	↗					
Shipped on 07/23/1997	→	11.80x10 <sup>12</sup> spores	←	<b>07/11/1997</b>	↘	Received on 07/24/1997	→	Purification Date 08/29/1997	→	7.34x10 <sup>12</sup> (37.80% purification loss)
				<b>07/17/1997</b>	↗					
Shipped on 08/06/1997	→	09.08x10 <sup>12</sup> spores	←	* <b>07/21/1997*</b>	↘	Received on 08/07/1997	→	Purification Date 09/01/1997	→	3.89x10 <sup>12</sup> (57.16% purification loss)
				08/02/1997	↗					
Shipped on 09/03/1997	→	05.58x10 <sup>12</sup> spores	←	* <b>08/04/1997*</b>	→	Received on 09/04/1997	→	Purification Date 09/16/1997	→	3.8x10 <sup>12</sup> (31.90% purification loss)

Total 72.87x10<sup>12</sup> spores

Total 33.96x10<sup>12</sup> spores

Combining production runs from USAMRIID and Dugway yielded approximately **4.02x10<sup>13</sup> spores** (reported by Ivins as 3.6x10<sup>13</sup> spores) without the 7<sup>th</sup> lot.

( \*Positive for *Bacillus globigii* colonies during dilutions \*

Bold **dates** correlate with samples recovered from AMX search of the Life Sciences Facility )

Dugway Proving Grounds Anthracis Production of  
1029

FEDERAL BUREAU OF INVESTIGATION  
FOIPA  
DELETED PAGE INFORMATION SHEET

No Duplication Fees are charged for Deleted Page Information Sheet(s).

Total Deleted Page(s) ~ 38

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